DOCUMENT RESUME

ED 478 908 SE 068 246

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TITLE	Urban School Key Indicators of Science and Mathematics Education: 2001.
INSTITUTION	ACT, Inc., Iowa City, IA.
SPONS AGENCY	National Science Foundation, Arlington, VA.
ISBN	ISBN-0-9702968-2-7
PUB DATE	2002-03-00
NOTE	443p.; Produced in conjunction with College Board, Educational Testing Service, and Systemic Research, Inc.
CONTRACT	REC-9874322
AVAILABLE FROM	Systemic Research, Inc., 150 Kerry Place, 2nd Floor, Norwood, MA 02062. Tel: 781-278-0300; Fax: 781-278-0707. For full text: http://www.systemic.com/ publication.cfm.
PUB TYPE	Reports - Research (143)
EDRS PRICE	EDRS Price MF01/PC18 Plus Postage.
DESCRIPTORS	*Academic Achievement; *Educational Improvement; Elementary Secondary Education; *Mathematics Education; Partnerships in Education; Program Evaluation; *Science Education; Standards; Technology Education; *Urban Areas

ABSTRACT

In 1994, the National Science Foundation (NSF) launched the Urban Systemic Initiative (USI) program, applying lessons learned from the Initial State Systemic Initiative (SSI) program to the problems of inner city s 'ool systems. The USI program was offered to cities with the largest number of K-12 students living in poverty. Five cohorts of cities signed cooperative agreements with NSF for a five-year concerted system-wide effort to promote standards-based reform in mathematics, science, and technology (MST). The NSF investment was meant to be a catalyst for large-scale educational change affecting standards, curriculum, assessment, professional development, partnerships, and convergence of intellectual and fiscal resources with constant attention to improving student achievement. Over the course of the systemic initiative programs, NSF developed a theoretical structure for systemic reform that is based on six "drivers", including four process drivers and two student outcome drivers as well as a number of cross-cutting issues such as equity, quality, scaling up, coordination, and organization. Systemic Research, Inc. received a three-year grant to explore the impact of the NSF's USI program on student achievement and the learning infrastructure in urban school districts by examining relationships among the process drivers (factor or independent variables), and outcome drivers (system output or dependent variables). The intent was to establish an inferential causal structure that allows reasonable attribution of impacts to program elements. As an instrument for systemic analysis, Key Indicator Data System (KIDS) was used. Results of the study allow broader dissemination of successful systemic initiative models based on a reverse engineering approach. Results of the analysis are organized into three volumes: (1) Volume I: Cohort 93; (2) Volume II: Cohort 94; and (3) Volume III: Cohort 95, 97, and 99 School Districts. (Author/SOE)

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USI Urban Systemic Initiatives 1

Program Funded by National Science Foundation

Urban School Key Indicators of Science and Mathematics Education: 2001

Volume I Cohort 93 School Districts

Baltimore
Chicago
Dallas
Detroit
El Paso
Miami-Dade
New York
Phoenix

USI EVALUATIVE STUDY

How Reform Works!
An Evaluative Study of NSF's Urban Systemic Initiatives

March 2002

Based on Key Indicator Data System (KIDS) 2001

Urban Systemic Initiatives

Urban School Key Indicators of Science and Mathematics Education

Volume I

Cohort 93

Baltimore
Chicago
Dallas
Detroit
El Paso
Miami-Dade
New York
Phoenix

Volume II

Cohort 94

Cleveland
Columbus
Fresno
Los Angeles
Memphis
New Orleans
Philadelphia

Volume III

Cohort 95

Milwaukee
San Antonio
San Diego
St. Louis

Cohort 97

Atlanta
Jacksonville

Cohort 99

Houston

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USI

Urban Systemic Initiatives

Program Funded by National

Urban School Key Indicators of Science and Mathematics Education: 2001

Volume I Cohort 93 School Districts

Baltimore
Chicago
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March 2002

Based on Key Indicator Data

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How Reform Works:
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Urban School Key Indicators of Science and Mathematics Education: 2001

Based on Key Indicator Data System (KIDS-2001)

Urban Systemic Initiatives Funded by the
National Science Foundation

Volume I:

Cohort 93 School Districts

March 2002

Systemic Research, Inc.

The preparation of this report was sponsored by the National Science Foundation, Directorate for Education and Human Resources, Division of Research, Evaluation and Communication, under Grant No. REC-9874322.

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The Report is also available on the World Wide Web: **www.systemic.com/usi** or **www.sistudyforum.org**

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The College Board

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With the assistance of

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For the

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Division of Educational System Reform/Directorate for Education and Human Resources

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Any opinions, findings, and conclusions or recommendations expressed in this report are those of the participants and do not necessarily represent the official views, opinions, or policy of the National Science Foundation

ISBN 0-9702968-2-7

Designed by Eun Ae Park

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About USI and KIDS

In 1994, NSF launched the Urban Systemic Initiative (USI) program, applying lessons learned from its initial State Systemic Initiative (SSI) program to the problems of inner-city school systems. The USI program was offered to major cities with the largest number of K-12 students living in poverty. Five cohorts of cities signed cooperative agreements with NSF for a five-year concerted system-wide effort to promote standards-based reform in mathematics, science, and technology (MST). The NSF investment was meant to be a catalyst for large-scale educational change affecting standards, curriculum, assessment, professional development, partnerships, and convergence of intellectual and fiscal resources, with constant attention to improving student achievement. NSF's focus on results has become even stronger following passage of the Government Performance and Results Act (GPRA). Over the course of its systemic initiative programs, NSF has developed a theoretical structure for systemic reform that is based on six "drivers" including four process drivers and two student outcome drivers, as well as a number of cross-cutting issues such as equity, quality, scaling up, coordination and organization.

SysteMatic Research, Inc. received a three year grant to explore the impact of the NSF's USI program on student achievement and the learning infrastructure in urban school districts by examining relationships among the process drivers (factor, or independent variables) and outcome drivers (system output, or dependent variables). The intent was to establish an inferential causal structure that allows reasonable attribution of impacts to program elements. Results of the study allow broader dissemination of successful systemic initiative models based on a "reverse engineering" approach.

As a vital instrument for systemic analysis, our evaluative study team developed a Key Indicator Data System (KIDS) to collect comprehensive annual core data using both quantitative (K-1: focused on demographics, student outcomes, and teacher preparations) and qualitative (K-2: focused on policies relevant to six drivers) templates. KIDS was tailored to each cohort/site due to the differences in USI timelines, curriculum structure, and student assessment systems.

With the cooperation from 22 USI sites (PIs/PDs, data managers, and local evaluators), as well as collaboration from the Educational Testing Service, The College Board, and ACT, Inc., our study team completed KIDS data collection. The qualitative data was also compiled/extracted from the individual Annual Reports and PER documents collected from all 22 sites during the project period.

The three-volume Urban School Key Indicators of Science and Mathematics Education: 2001 presents the essence of each USI's progress based on KIDS-1999, 2000, and 2001 from each site's baseline year to SY 1999-00. This report replaces Urban School Key Indicators of Science and Mathematics Education: Based on Key Indicator Data System (KIDS-1999), Volumes I-IV.

Please refer to our evaluative study web site http://www.systemic.com/usi or the SysteMatic Initiative (SI) study group web site http://www.sistudyforum.org for details of study progress and available electronic version of various study reports.

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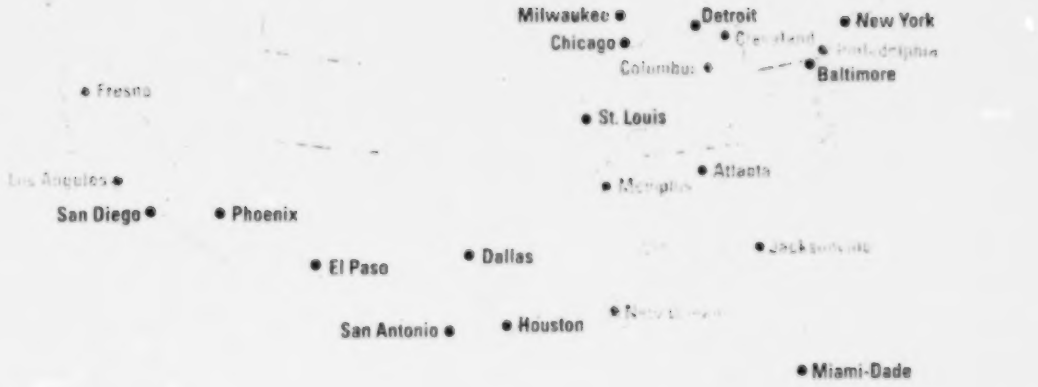
Urban Systemic Initiatives

USI School Districts by Cohort

Cohort 93	
Baltimore	Cleveland
Chicago	Columbus
Dallas	Fresno
Detroit	Los Angeles
El Paso	Memphis
Miami-Dade	New Orleans
New York	Philadelphia
Phoenix	

Cohort 95	
Milwaukee	Atlanta
San Antonio	Jacksonville
San Diego	
St. Louis	

Cohort 99
Houston



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Urban Study Publications by Systemic Research, Inc.

Studies Funded by the National Science Foundation

What Matters in Urban School Reform, Study Monograph No. 1, by M. Ware, L. Richardson, & J. Kim, Systemic Research, Inc., March 2000.

Survey Results of Urban School Classroom Practices in Mathematics and Science: 1999 Report, Study Monograph No. 2, by R. Blank, J. Kim, and J. Smithson, Systemic Research, Inc., June 2000.

Urban School Key Indicators of Science and Mathematics Education: Based on Key Indicator Data System (KIDS-1999), Volume I, II, III, IV, and Appendix, by J. Kim, H. Lee, L. Crasco, D. Lee, A. Karantonis, and D. Leavitt, Systemic Research, Inc., September 2000.

Survey Results of Urban School Classroom Practices in Mathematics and Science: 2000 Report, Study Monograph No. 3, by J. Kim, L. Crasco, R. Blank, & J. Smithson, Systemic Research, Inc., April 2001.

Academic Excellence for All Urban Students: Their Accomplishment in Science and Mathematics, J. Kim, L. Crasco, R. Smith, G. Johnson, A. Karantonis, & D. Leavitt, Systemic Research, Inc., April 2001..

Raising Standards and Achievement in Urban Schools: Case Stories from CPMSAs in Hamilton/Chattanooga and Newport News Public Schools, a report from the Comprehensive Partnerships for Mathematics and Science Achievement (CPMSA) evaluative study, by J. Kim, P. Richmond, L. Crasco, N. Libbus, G. Johnson, and A. Karantonis, Systemic Research, Inc., January 2002.

School District Progress Report

March 2002

Baltimore

Urban School Key Indicators of Science and Mathematics Education: 2001

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Baltimore USI

Project Information

USI Project Title : Baltimore USI

Cohort: 93 (Sept. 94 - Aug. 00)

USI Web Site: http://www.morgan.edu/academic/special/busi/busi.htm

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Baltimore, MD 21202

• USI Schools Math & Sci. Teachers and Students

99-00	Schools	Teachers	Students
K-G5 (Elementary)	105	2,000	44,000
G6-8 (Middle)	8	120	6,000
G9-12 (High)	9	260	12,983
Total	122	2,380	62,983

Project Summary

The Baltimore Urban Systemic Initiative placed mathematics and science Instructional Support Teachers (ISTs) in low-performing middle and high schools and partially funded ISTs in elementary schools as part of an NSF-funded K-5 mathematics project. Professional development has been a key element of the BUSI project and continues to be supported by BCPSS.

BUSI has affected the culture of the Baltimore City Public School System (BCPSS) during its period of system reform, which has included purchase of mathematics and science textbooks and materials for every student, curriculum revisions, extensive professional developing supporting the new materials and curriculum, and unit and end-of-course assessments based directly on the curriculum.

BUSI also ran student tutoring programs in middle schools and in public housing community centers, with college students as tutors. BUSI initiated regular meetings with the informal science education institutions in Baltimore City.

Project Goals

- To improve the scientific and mathematical literacy of all students in the Baltimore City public schools.
- To provide all students with the mathematics and science fundamentals to participate fully in a technological society.
- To enable a significantly greater number of students to pursue careers in mathematics, science, engineering, and technology.

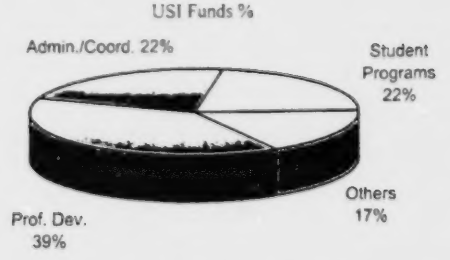
Selected School Indicators (District Average)

	93-94	99-00	Change
%Special Ed.	14.5%	15.3%	+0.8 PP
%LEP	0.4%	0.7%	+0.3 PP
%FRL	69.4%	63.3%	-6.1 PP
%Daily Ave. Atten.	•	88.1%	•
%Average Retained	•	•	•
%Drop-Out	15.4%	10.4%	-5.0 PP
%Mobility	•	27.9%	•
Per Pupil Cost ($)	5,391	7,439	+38.0%
Num of Students Per Computer	•	•	•
% Classrooms Internet Access	•	•	•
Average Class Size	•	•	•

(·) Data Missing PP: Percentage Points

District and USI Fund Utilization (SY 1999-00)

	District	USI
Prof. Dev.	38%	39%
Admin./Coord.	24%	22%
Student Program	19%	22%
Others	19%	17%
Total	100%	100%



Baltimore USI

Student Demographics (SY 1999-00)

District Total:	99,299	
USI Schools:	62,983	63%

♦ Race/Ethnicity

	93-94	99-00	%	% Change
Ame. Ind./Ala. Nat.	508	374	0.4%	-26.4%
Asian/P. Islander	491	573	0.6%	+16.7%
Black	88,539	86,619	87.2%	-2.2%
Hispanic	357	575	0.6%	+61.1%
White	16,842	11,158	11.2%	-33.7%
Other	0	0	0.0%	·
Total	106,737	99,299		-7.0%
URM Total	89,404	87,568	88.2%	-2.1%

URM: Underrepresented Minority students

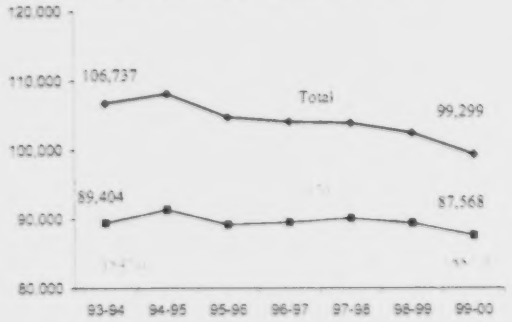
♦ Gender

Male	53,873	50,294	50.6%	-6.6%
Female	52,864	49,005	49.4%	-7.3%

♦ Grade

K-G5	57,051	50,162	50.5%	-12.1%
G6-8	25,699	23,170	23.3%	-9.8%
G9-12	23,987	25,967	26.2%	+8.3%
Ungraded	0	0	0.0%	·

♦ District-Wide Student Demographic Trends



12th Grade Graduates

	96-97	99-00	Change
Total 12th Grade	4,203	4,359	+4%
Earned a Diploma	3,843	3,742	-3%
% Earned Diploma	91%	86%	-5 PP

% Earned Diploma

College Entrance

	93-94	99-00	Change
2 Yr College	·	·	·
4 Yr College	·	·	·
Other Post-Secon.	·	·	·
Total C. E.	·	·	·
% C. E./Earned Dip.	·	·	·

% College Entrance

High School Graduation Requirements (SY 99-00)

- Mathematics
  - Three years of math including Algebra I, Geometry
  - A course at the Algebra II level with a PreAlgebra course course not counting as "Math".
- Science
  - Three years of lab science

(·) Data Missing PP: Percentage Points

Math and Science Teachers & Certification

♦ Mathematics (G6-12)

		97-98	99-00	Change
G6-8	Teachers	210	250	+19%
	Certified	·	·	·
	% Cert.	·	·	·
G9-12	Teachers	260	140	-46%
	Certified	·	·	·
	% Cert.	·	·	·
Total	Teachers	470	390	-17%
	Certified	·	·	·
	% Cert.	·	·	·

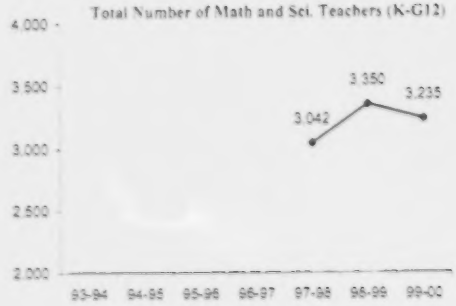
♦ Science (G6-12)

		97-98	99-00	Change
G6-8	Teachers	193	225	+17%
	Certified	·	·	·
	% Cert.	·	·	·
G9-12	Teachers	222	120	-46%
	Certified	·	·	·
	% Cert.	·	·	·
Total	Teachers	415	345	-17%
	Certified	·	·	·
	% Cert.	·	·	·

♦ Math and Science (K-G5)

		97-98	99-00	Change
K-G5	Teachers	2,157	2,500	+16%

Total Number of Math and Sci. Teachers (K-G12)

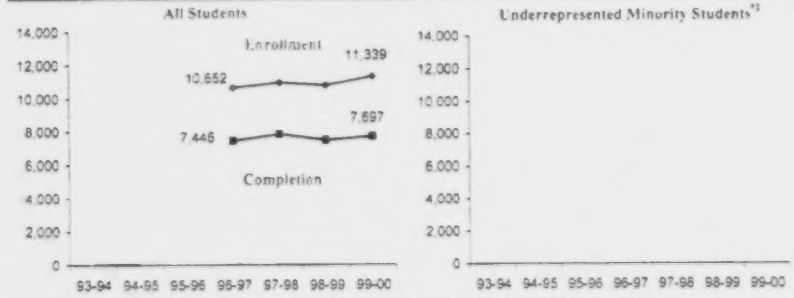


Baltimore USI

Mathematics and Science Enrollment & Completion Trends/ All vs. URM

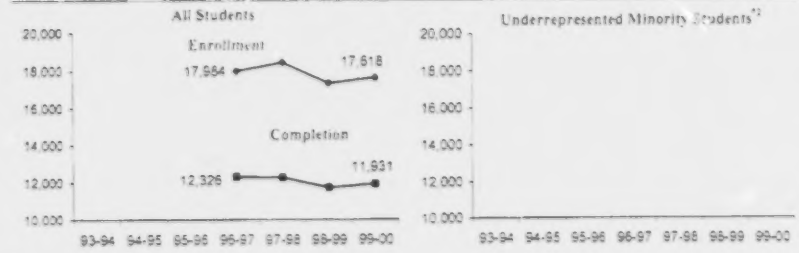
G 9-12 Mathematics Gate-Keeping Courses (Algebra II, Geo., and Calculus)

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		23,987	25,687	25,046	25,848	25,905	26,490	25,967
All Students	Enrollment				10,652	10,967	10,798	11,339
	Completion [1]				7,446	7,839	7,484	7,697
	% Enroll/ G9-12				41%	42%	41%	44%
URM [2]	Enrollment							
	Completion [1]							
	% Enroll/ G9-12							



G 9-12 Science Gate-Keeping Courses (Biology 1, Chem. 1, and Physics 1)

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		23,987	25,687	25,046	25,848	25,905	26,490	25,967
All Students	Enrollment				17,984	18,437	17,334	17,618
	Completion [1]				12,326	12,297	11,726	11,931
	% Enroll/ G9-12				70%	71%	65%	68%
URM [2]	Enrollment							
	Completion [1]							
	% Enroll/ G9-12							

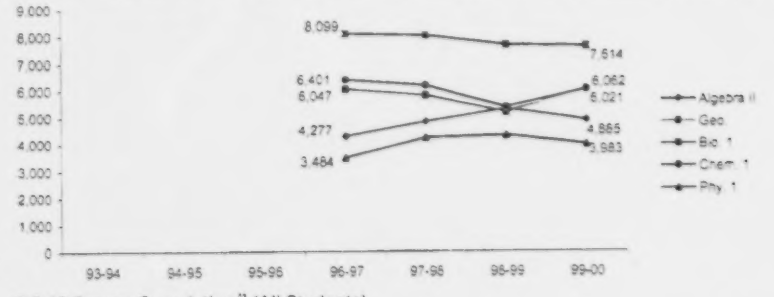


[1] Successful completion: grade 'D' or above.
[2] Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Mathematics and Science Enrollment & Completion Trends By Subject

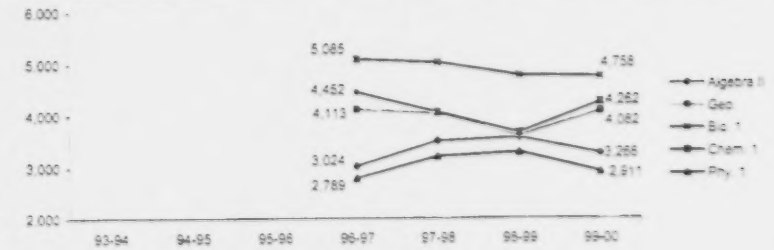
G 9-12 Course Enrollment (All Students)

	Algebra II	Geo.	Calculus[3]	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
93-94								
94-95								
95-96								
96-97	4,277	6,047	328	10,652	8,099	6,401	3,484	17,984
97-98	4,838	5,811	318	10,967	8,021	6,185	4,231	18,437
98-99	5,300	5,167	331	10,798	7,669	5,352	4,313	17,334
99-00	4,885	6,062	392	11,339	7,614	6,021	3,983	17,618



G 9-12 Course Completion [1] (All Students)

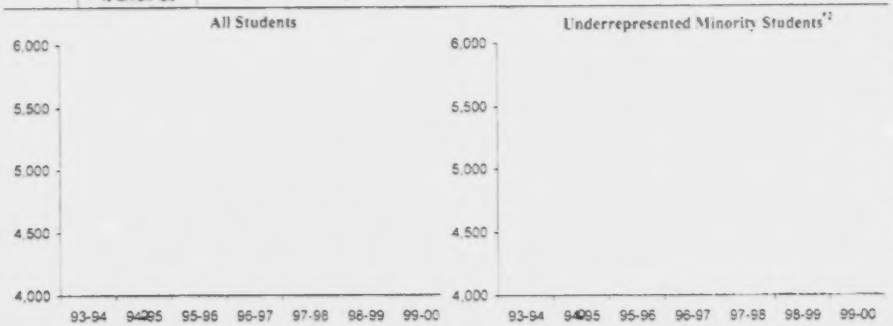
	Algebra II	Geo.	Calculus[3]	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
93-94								
94-95								
95-96								
96-97	3,024	4,113	309	7,446	5,085	4,452	2,789	12,326
97-98	3,500	4,039	300	7,839	5,024	4,064	3,209	12,297
98-99	3,565	3,603	316	7,484	4,779	3,660	3,287	11,726
99-00	3,266	4,082	349	7,697	4,758	4,262	2,911	11,931



[3] Calculus not represented on graph. ( ) Data Missing

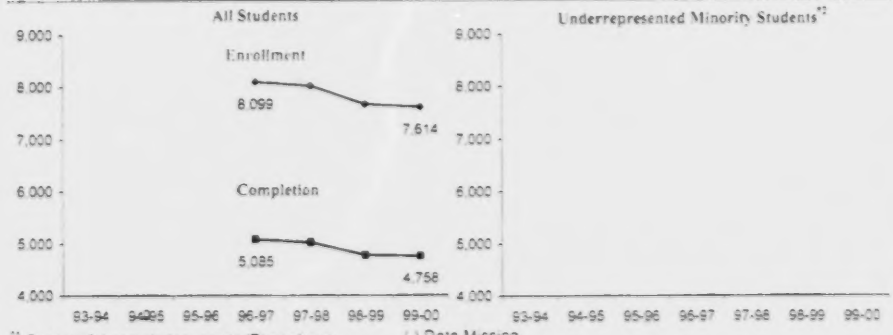
Algebra I or Above in 8th Grade Enrollment & Completion Trends/ All vs. URM

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 8 Population		7,630	7,908	7,713	7,599	7,313	7,381	7,211
All Students	Enrollment							
	Completion [1]							
	% Enroll/ G8							
URM [2]	Enrollment							
	Completion [1]							
	% Enroll/ G8							



Biology Enrollment & Completion Trends/ All vs. URM

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students	Enrollment				8,099	8,021	7,669	7,614
	Completion [1]				5,085	5,024	4,779	4,758
URM [2]	Enrollment							
	Completion [1]							



[1] Successful completion: grade 'D' or above. (.) Data Missing

[2] Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Professional Development Participation of Teachers Teaching Mathematics and/or Science

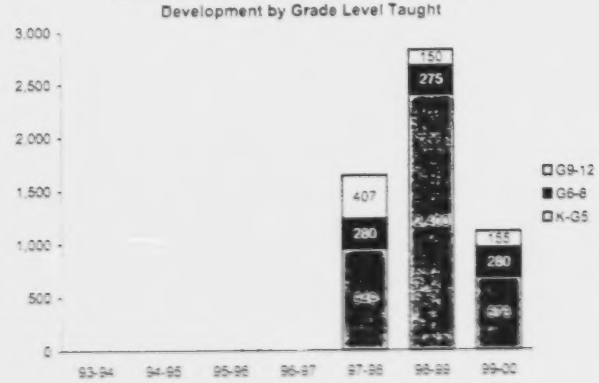
Total Number Teachers by Subject (G6-12)

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Mathematics					470	400	390
Science					415	350	345

Total Number of Teachers Participating in PD by Grade Level

Teachers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total K-G5					2,157	2,600	2,500
# K-G5 Participated					949	2,400	673
% K-G5 Participated					44%	92%	27%
Total G6-8					403	475	475
# G6-8 Participated					280	275	280
% G6-8 Participated					69%	58%	59%
Total G9-12					482	275	260
# G9-12 Participated					407	150	155
% G9-12 Participated					84%	55%	60%

Number of Teachers Participating in Professional Development by Grade Level Taught



Number of Teachers by Duration of Professional Development

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
1-59 Hours	0	0	0	0	1,125	980	797
60-119 Hours	0	0	0	0	353	1,620	238
120-200 Hours	0	0	0	0	124	225	73
More than 200 Hours	0	0	0	0	34	0	0

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District Assessment Test Administered

♦ Mathematics

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	CTBS/4	CTBS/4			CTBS/4	CTBS/4	CTBS/5
Scoring	PC	PC			PL	PL	PL
Grade	1,2,3,4,5,6	1,2,3,4,5,6			1,2,3,4,5,6	1,2,3,4,5,6	1,2,3,4,5,6
Type	NRT	NRT			NRT	NRT	NRT

♦ Science

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name							
Scoring							
Grade							
Type							

State Assessment Test Administered

♦ Mathematics

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	MFMT	MFMT	MFMT	MFMT	MFMT	MFMT	MFMT
Scoring	PC	PC	PC	PC	PC	PC	PC
Grade	3,5,8	3,5,8	3,5,8	3,5,8	3,5,8,9,11	3,5,8,9,11	3,5,8,9,11
Type	CRT	CRT	CRT	CRT	CRT	CRT	CRT

♦ Science

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	MSPAP	MSPAP	MSPAP	MSPAP	MSPAP	MSPAP	MSPAP
Scoring	PC	PC	PC	PC	PC	PC	PC
Grade	3,5,8	3,5,8	3,5,8	3,5,8	3,5,8	3,5,8	3,5,8
Type	CRT	CRT	CRT	CRT	CRT	CRT	CRT

*CTBS: Comprehensive Test of Basic Skills

*MSPAP: Maryland School Performance Assessment Program *MFMT: Maryland Functional MathTests

PC: Percentile SN: Stanine PL: Performance Level

PF: Pass/Fail SS: Scaled Score OT: Other

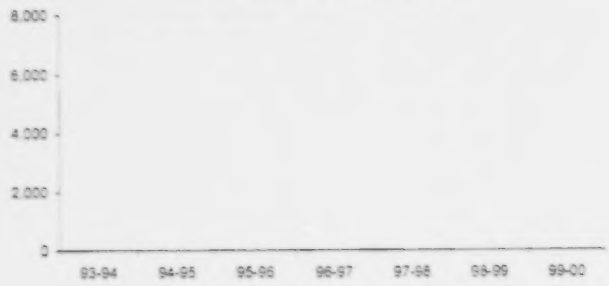
NRT: Norm-Referenced Test CRT: Criterion-Referenced Test

State Assessment Test-Taker Trends MFMT

♦ Mathematics

# of Test-takers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Grade 5							
Grade 8							
Grade 11							

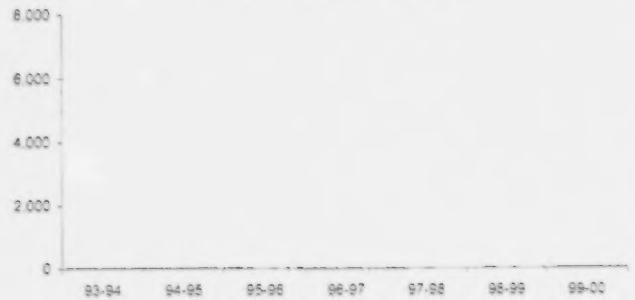
Total number of students taking test



♦ Science

# of Test-takers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Grade 5							
Grade 8							
Grade 11							

Total number of students taking test

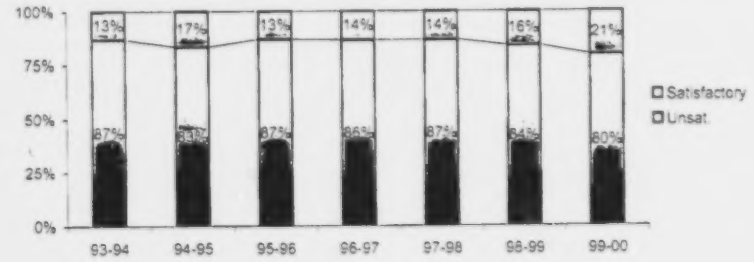


( ) Data Missing

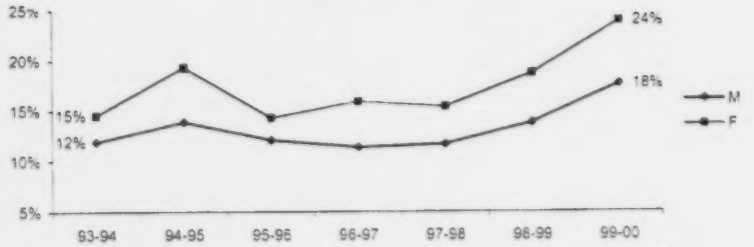
State Assessment Test Result Trends MFMT - Mathematics

• Grade 5

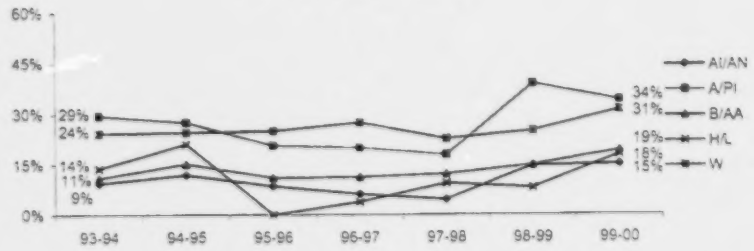
Level	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Satisfactory	13%	17%	13%	14%	14%	16%	21%
Unsat.	87%	83%	87%	86%	87%	84%	80%
Total num of students							



% Passing by Gender



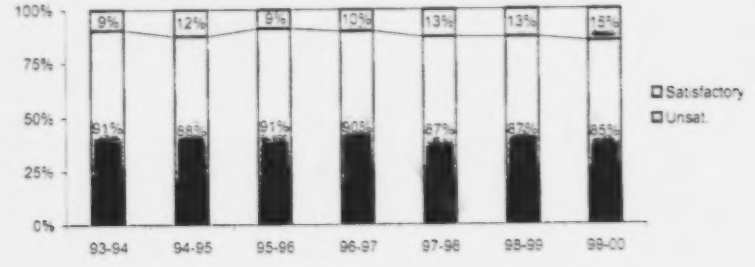
% Passing by Race/Ethnicity



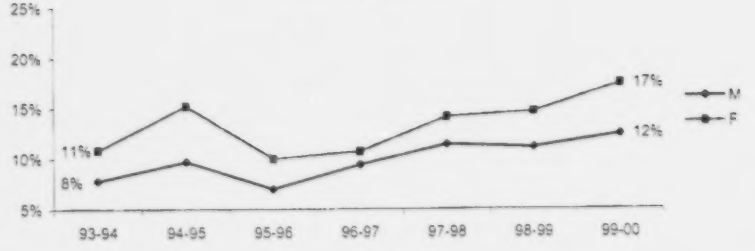
State Assessment Test Result Trends MFMT - Mathematics

• Grade 8

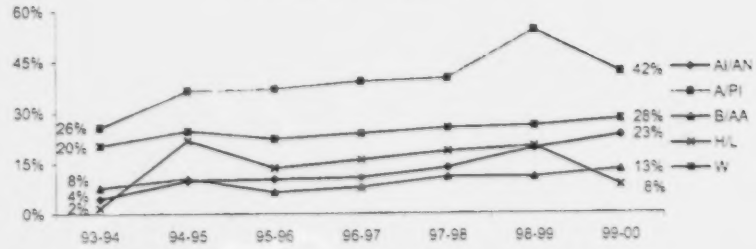
Level	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Satisfactory	9%	12%	9%	10%	13%	13%	15%
Unsat.	91%	88%	91%	90%	87%	87%	85%
Total num of students							



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as "Satisfactory or above" (.) Data Missing

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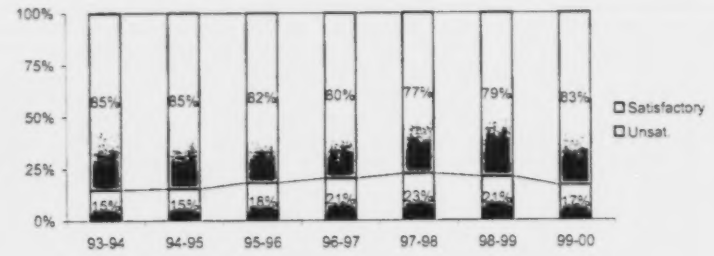
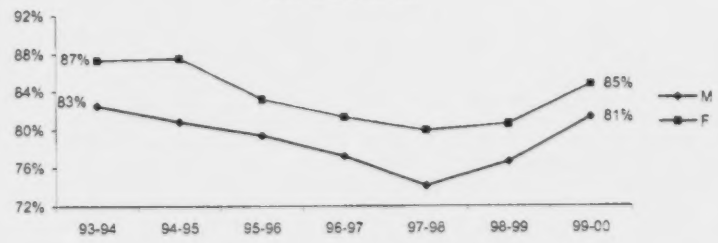
State Assessment Test Result Trends MFT - Mathematics

♦ **Grade 11**

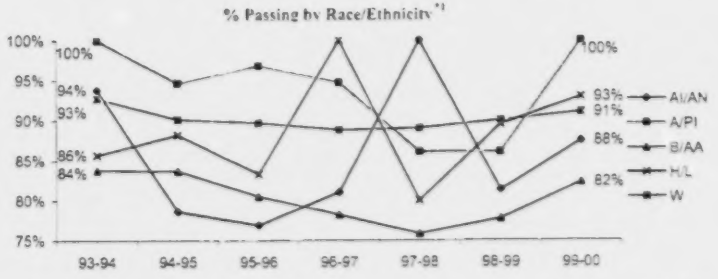
Level	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Satisfactory	85%	85%	82%	80%	77%	79%	83%
Unsat.	15%	15%	18%	21%	23%	21%	17%
Total num of students							



% Passing by Gender



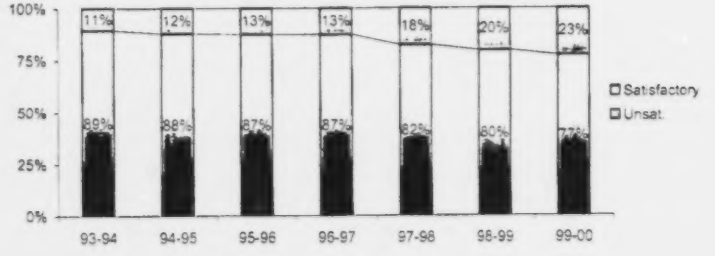
% Passing by Race/Ethnicity [*1]



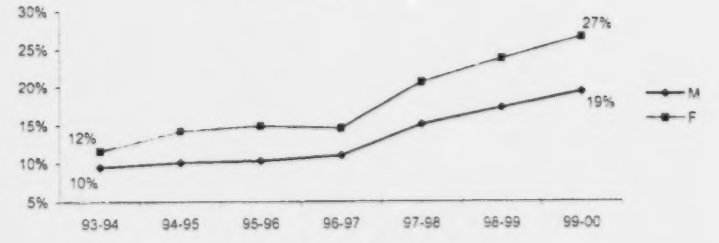
State Assessment Test Result Trends MSPAP - Science

♦ **Grade 5**

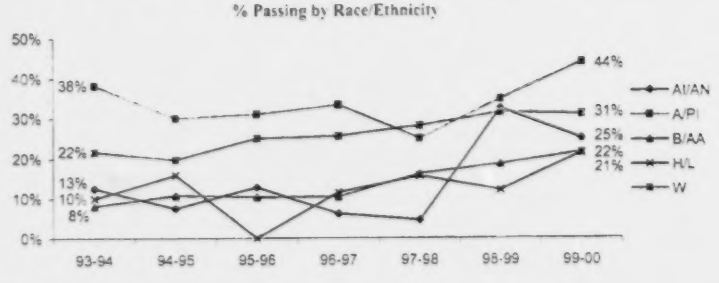
Level	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Satisfactory	11%	12%	13%	13%	18%	20%	23%
Unsat.	89%	88%	87%	87%	82%	80%	77%
Total num of students							



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native. A/PI: Asian/Pacific Islander. B/AA: Black or African American. H/L: Hispanic or Latino. W: White

% Passing defined as "Satisfactory or above"

[*1] Source: Maryland School Performance Report

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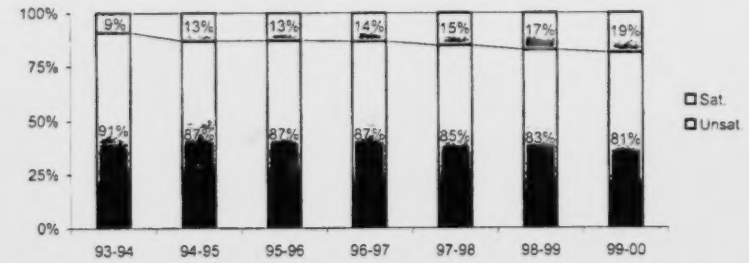
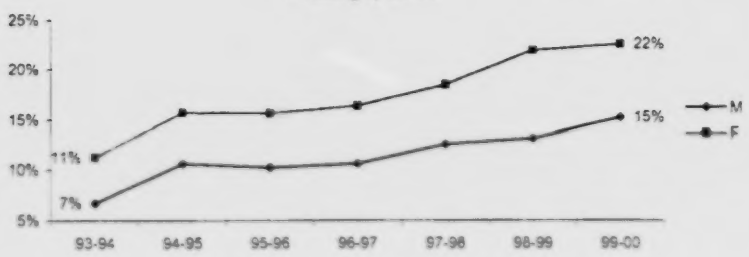
State Assessment Test Result Trends MSPAP - Science

♦ **Grade 8**

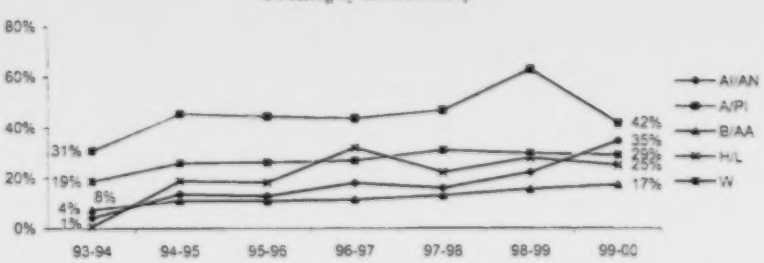
Level	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Sat.	9%	13%	13%	14%	15%	17%	19%
Unsat.	91%	87%	87%	87%	85%	83%	81%
Total num of students							



% Passing by Gender



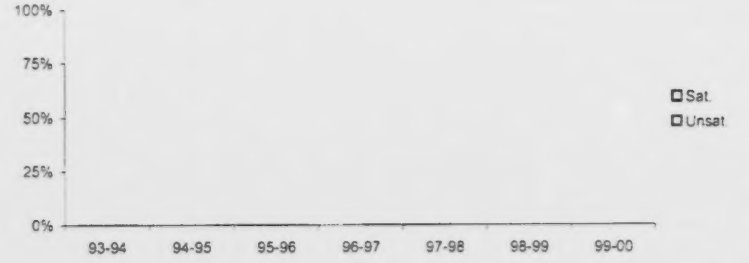
% Passing by Race/Ethnicity



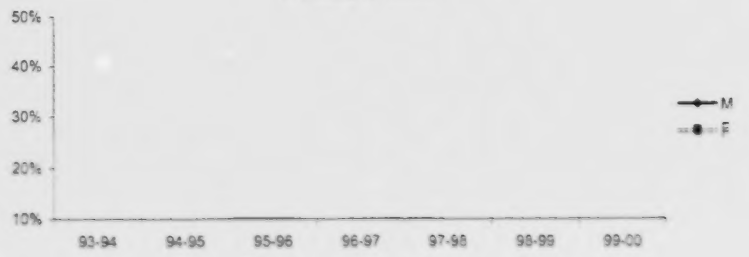
Assessment Test Result Trends - Science

♦ **Grade 11**

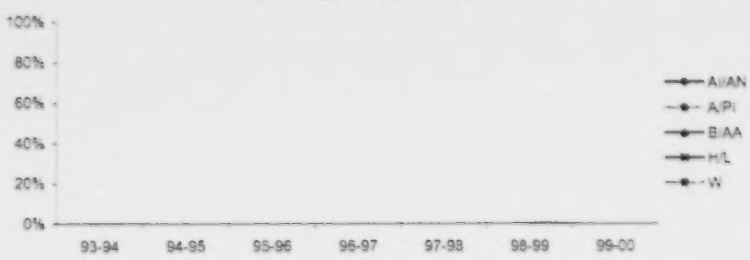
Level	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Sat.							
Unsat.							
Total num of students							



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White
% Passing defined as "Satisfactory or above"

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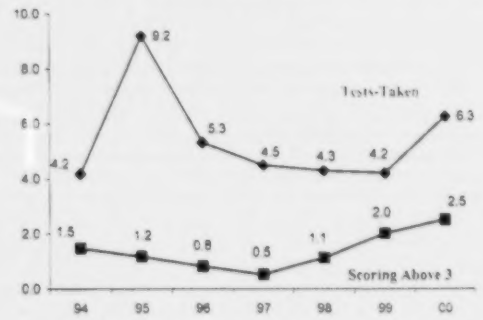
AP Mathematics Test Result Trends

• AP Mathematics - Total Number of Tests Taken

		94	95	96	97	98	99	00
Total Num of 11th & 12th		8,127	8,490	8,667	9,572	9,815	9,994	9,593
Tests Taken	Calc. AB	23	28	31	17	36	41	60
	Calc. BC	11	50	15	26	6	1	0
	Statistics	0	0	0	0	0	0	0
	Total	**34**	**78**	**46**	**43**	**42**	**42**	**60**
Num of tests taken/1,000 stu		4.2	9.2	5.3	4.5	4.3	4.2	6.3
Scoring Above 3		12	10	7	5	11	20	24
Num of Above 3/ 1,000 students		1.5	1.2	0.8	0.5	1.1	2.0	2.5

• AP Mathematics (Calculus AB, Calculus BC, & Statistics)

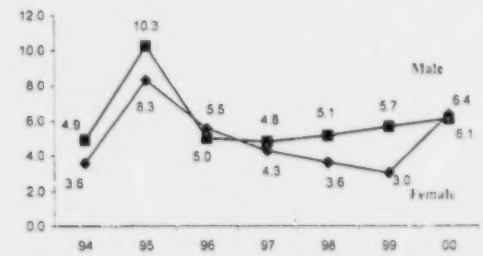
Number of tests taken and scoring above 3 per 1,000 students



• AP Mathematics - Number of Tests Taken By Gender per 1,000 Students

		94	95	96	97	98	99	00
Tests Taken per 1,000	Male	4.9	10.3	5.0	4.8	5.1	5.7	6.1
	Female	3.6	8.3	5.5	4.3	3.6	3.0	6.4

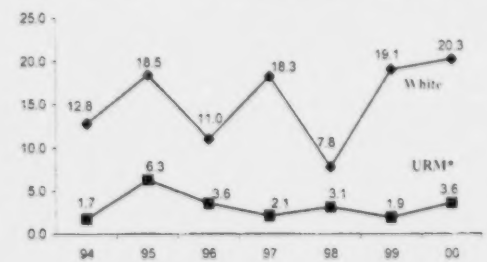
Number of tests taken per 1,000 students by Gender



• AP Mathematics - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [*1]

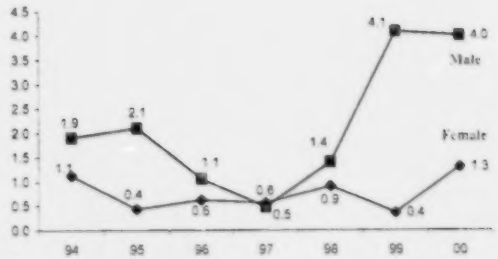
	94	95	96	97	98	99	00
AI/AN	0.0	0.0	38.5	0.0	26.3	0.0	31.3
A/PI	70.4	111.1	86.4	67.6	27.8	83.3	127.0
B/AA	1.7	6.3	3.5	1.9	3.0	1.9	3.4
H/L	0.0	0.0	0.0	71.4	0.0	0.0	21.7
W	12.8	18.5	11.0	18.3	7.8	19.1	20.3

Number of tests taken per 1,000 students by Race/Ethnicity



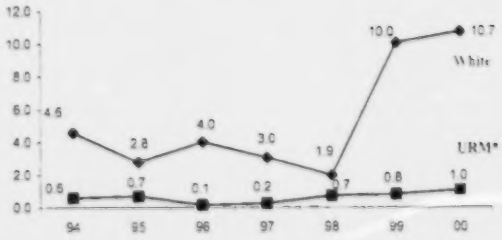
• AP Mathematics - Number of Students Scoring Above 3 By Gender Per 1,000 Students

		94	95	96	97	98	99	00
Score Above 3 per 1,000	Male	1.9	2.1	1.1	0.5	1.4	4.1	4.0
	Female	1.1	0.4	0.6	0.6	0.9	0.4	1.3



• AP Mathematics - Number of Students Scoring Above 3 By Race/Ethnicity Per 1,000 Students [*1]

	94	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	26.3	0.0	31.3
A/PI	28.2	13.9	24.7	0.0	0.0	41.7	63.5
B/AA	0.6	0.7	0.1	0.2	0.6	0.8	0.8
H/L	0.0	0.0	0.0	0.0	0.0	0.0	21.7
W	4.6	2.8	4.0	3.0	1.9	10.0	10.7



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented

*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

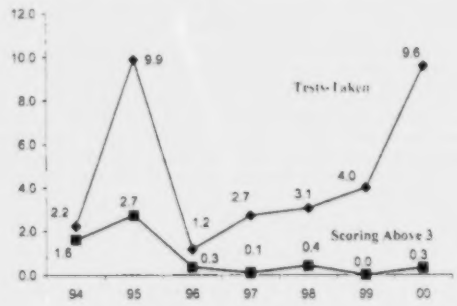
AP Science Test Result Trends

♦ AP Science (Biology, Chemistry, Environ. Sci., Phy. B, Phy. C Mech., & Phy. C Elec.

♦ AP Science - Total Number of Tests Taken

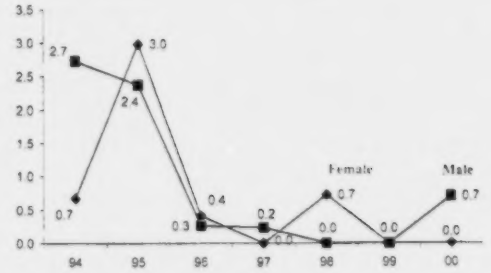
		94	95	96	97	98	99	00
Total Num of 11th & 12th		8,127	8,490	8,667	9,572	9,815	9,994	9,593
Tests Taken	Biology	16	57	10	20	23	26	39
	Chem	2	27	0	6	6	14	52
	Enviro. Sci.	0	0	0	0	1	0	1
	Physics B	0	0	0	0	0	0	0
	Ph. C Mech.	0	0	0	0	0	0	0
	Ph. C Elec.	0	0	0	0	0	0	0
	Total	**18**	**84**	**10**	**26**	**30**	**40**	**92**
Num of tests taken/1,000 stu		2.2	9.9	1.2	2.7	3.1	4.0	9.6
Scoring Above 3		13	23	3	1	4	0	3
Num of Above 3/ 1,000 students		1.6	2.7	0.3	0.1	0.4	0.0	0.3

Number of tests taken and scoring above 3 per 1,000 students



♦ AP Science - Number of Students Scoring Above 3 By Gender Per 1,000 Students

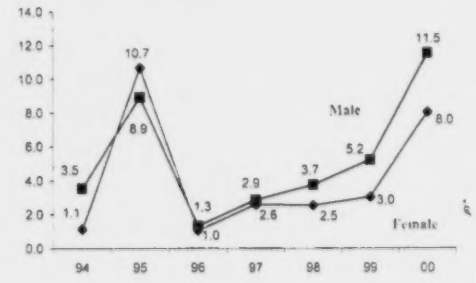
		94	95	96	97	98	99	00
Score Above 3 per 1,000	Male	2.7	2.4	0.3	0.2	0.0	0.0	0.7
	Female	0.7	3.0	0.4	0.0	0.7	0.0	0.0



♦ AP Science - Number of Tests Taken By Gender Per 1,000 Students

		94	95	96	97	98	99	00
Tests Taken per 1,000	Male	3.5	8.9	1.3	2.9	3.7	5.2	11.5
	Female	1.1	10.7	1.0	2.6	2.5	3.0	8.0

Number of tests taken per 1,000 students by Gender



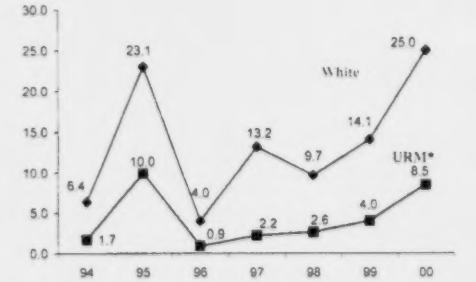
♦ AP Science - Number of Students Scoring Above 3 By Race/Ethnicity Per 1,000 Students [*1]

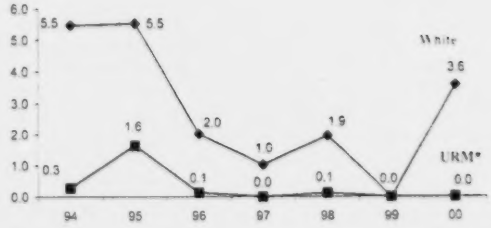
	94	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	26.3	0.0	0.0
A/PI	0.0	41.7	0.0	0.0	0.0	0.0	0.0
B/AA	0.3	1.7	0.1	0.0	0.0	0.0	0.0
H/L	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W	5.5	5.5	2.0	1.0	1.9	0.0	3.6

♦ AP Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [*1]

	94	95	96	97	98	99	00
AI/AN	0.0	27.0	0.0	0.0	26.3	0.0	31.3
A/PI	14.1	83.3	37.0	54.1	27.8	13.9	142.9
B/AA	1.7	9.6	0.9	2.2	2.5	3.8	8.2
H/L	0.0	62.5	0.0	0.0	0.0	46.5	43.5
W	6.4	23.1	4.0	13.2	9.7	14.1	25.0

Number of tests taken per 1,000 students by Race/Ethnicity





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B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented

*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

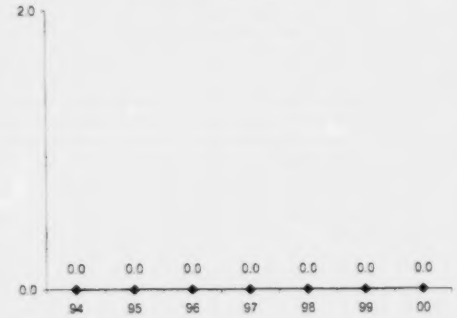
AP Computer Science Test Result Trends

♦ AP Computer Science (Computer Science A & AB)

♦ AP Computer Science - Total Number of Tests Taken

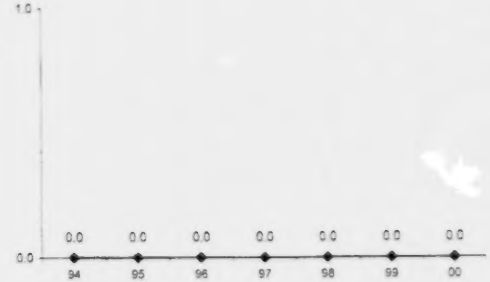
		94	95	96	97	98	99	00
Total Num of 11th & 12th students		8,127	8,490	8,667	9,572	9,815	9,994	9,593
Tests Taken	Comp. Sci A	0	0	0	0	0	0	0
	Comp. Sci. AB	0	0	0	0	0	0	0
	Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Num of tests taken/1,000 stu.		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scoring Above 3		0	0	0	0	0	0	0
Num of Above 3/ 1,000 students		0.0	0.0	0.0	0.0	0.0	0.0	0.0

Number of tests taken and scoring above 3 per 1,000 students



♦ AP Computer Science - Number of Students Scoring Above By Gender Per 1,000 Students

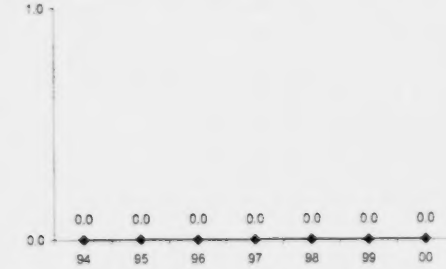
		94	95	96	97	98	99	00
Score Above 3 per 1,000	Male	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Female	0.0	0.0	0.0	0.0	0.0	0.0	0.0



♦ AP Computer Science - Number of Tests Taken By Gender Per 1,000 Students

		94	95	96	97	98	99	00
Tests Taken per 1,000	Male	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Female	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Number of tests taken per 1,000 students by Gender



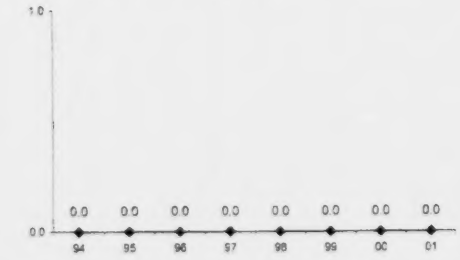
♦ AP Computer Science - Number of Students Scoring Above By Race/Ethnicity Per 1,000 Students [*1]

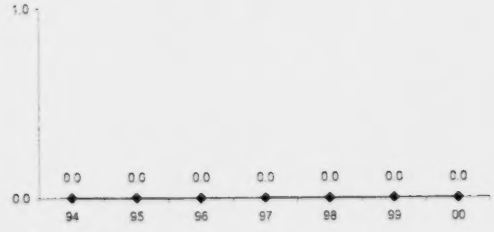
	94	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A/PI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B/AA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H/L	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0

♦ AP Computer Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [*1]

	94	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A/PI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B/AA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H/L	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Number of tests taken per 1,000 students by Race/Ethnicity





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[*1] "Other" category not presented

*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

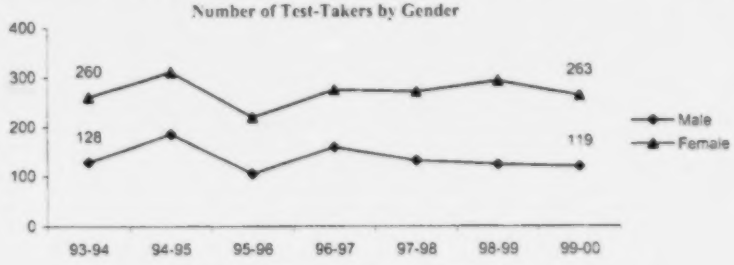
Baltimore USI

ACT Test-Takers

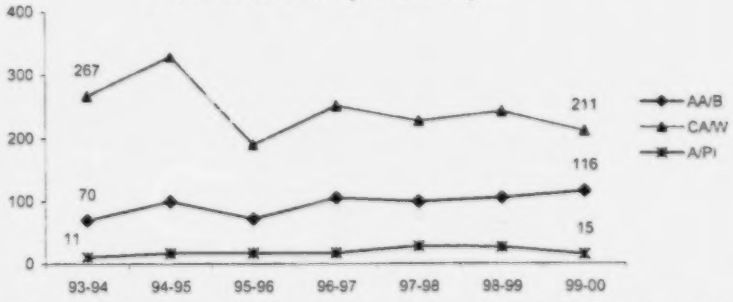
♦ Number of Test-Takers

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		3,593	3,921	3,882	4,203	4,373	4,549	4,359
Test-Takers		388	496	325	434	402	419	384
Num of Test-Takers/1,000 Stu		108	126	84	103	92	92	88
Gender	Male	128	185	105	159	131	123	119
	Female	260	311	220	275	271	293	263
Race/Ethnicity	AA/B	70	100	72	105	99	105	116
	AI/AN *1	1	0	0	2	0	1	0
	CA/W	267	329	190	251	227	242	211
	MA/C *1	2	1	1	1	0	3	1
	A/PI	11	17	17	17	28	26	15
	PR/H *1	4	9	6	4	10	4	3

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity

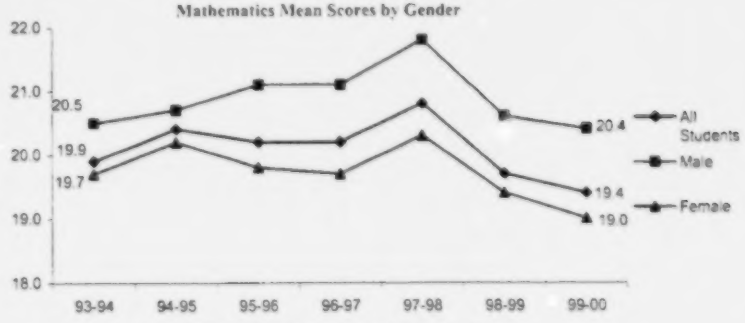


ACT Mathematics Scores

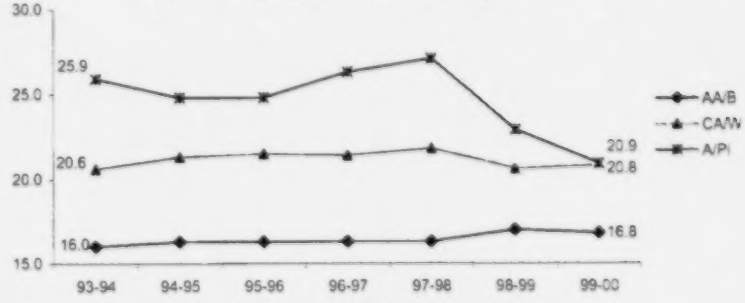
♦ Mathematics - Mean Score Trends

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		19.9	20.4	20.2	20.2	20.8	19.7	19.4
Gender	Male	20.5	20.7	21.1	21.1	21.8	20.6	20.4
	Female	19.7	20.2	19.8	19.7	20.3	19.4	19.0
Race/Ethnicity	AA/B	16.0	16.3	16.3	16.3	16.3	17.0	16.8
	AI/AN *2	-	-	-	-	-	-	-
	CA/W	20.6	21.3	21.5	21.4	21.8	20.6	20.8
	MA/C *2	-	-	-	-	-	-	-
	A/PI	25.9	24.8	24.8	26.3	27.1	22.9	20.9
	PR/H *2	-	19.9	18.5	-	20.4	-	-

Mathematics Mean Scores by Gender



Mathematics Mean Scores by Race/Ethnicity



AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.

*1 Number of Test Takers less than 5 not presented in graph

*2 Mean score not presented for sample size less than 5.

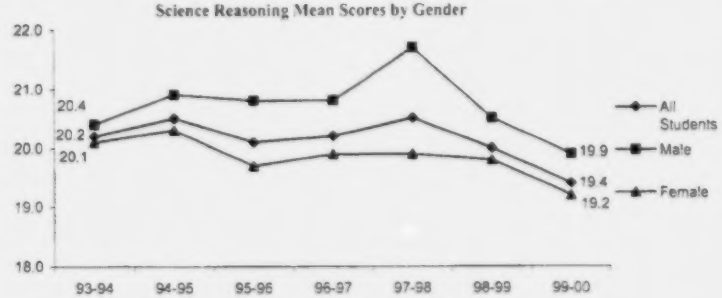
Baltimore USI

ACT Science Reasoning Scores

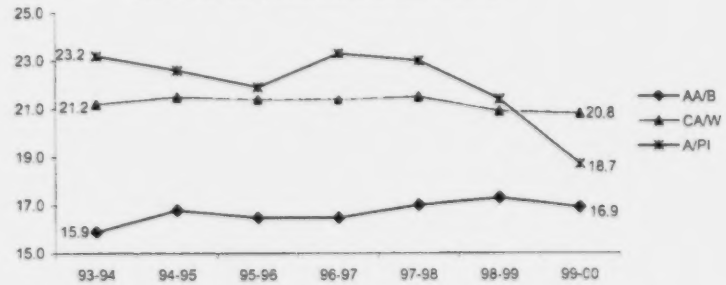
• Science Reasoning - Mean Score Trends

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		20.2	20.5	20.1	20.2	20.5	20.0	19.4
Gender	Male	20.4	20.9	20.8	20.8	21.7	20.5	19.9
	Female	20.1	20.3	19.7	19.9	19.9	19.8	19.2
Race/Ethnicity	AA/B	15.9	16.8	16.5	16.5	17.0	17.3	16.9
	AI/AN [*1]	-	-	-	-	-	-	-
	CA/W	21.2	21.5	21.4	21.4	21.5	20.9	20.8
	MA/C [*1]	-	-	-	-	-	-	-
	A/PI	23.2	22.6	21.9	23.3	23.0	21.4	18.7
	PR/H [*1]	-	18.6	19.5	-	20.9	-	-

Science Reasoning Mean Scores by Gender



Science Reasoning Mean Scores by Race/Ethnicity



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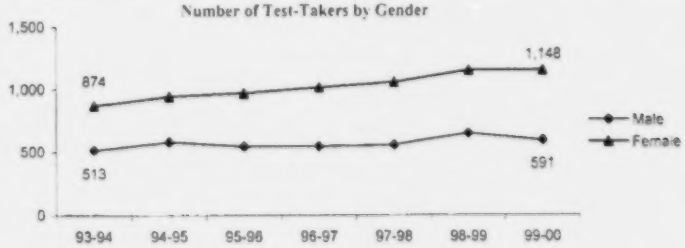
[*1] Mean scores not presented for sample size less than 5.

SAT Test-Takers

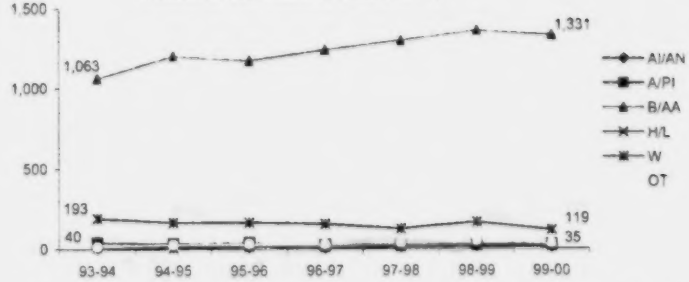
• Number of Test-Takers

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		3,593	3,921	3,882	4,203	4,373	4,549	4,359
Test-Takers		1,387	1,524	1,515	1,561	1,612	1,793	1,739
Num of Test-Takers/1,000 Stu		386	389	390	371	369	394	399
Gender	Male	513	579	545	546	555	645	591
	Female	874	945	970	1,015	1,057	1,148	1,148
Race/Ethnicity	AI/AN	8	15	15	9	15	19	13
	A/PI	40	33	39	26	26	29	27
	B/AA	1,063	1,203	1,174	1,241	1,301	1,362	1,331
	H/L	12	7	15	12	11	16	16
	W	193	168	167	157	127	167	119
	OT	15	29	33	32	43	51	35

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity



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Baltimore USI

SAT Mathematics Scores

♦ **Mathematics - Mean Score Trends**

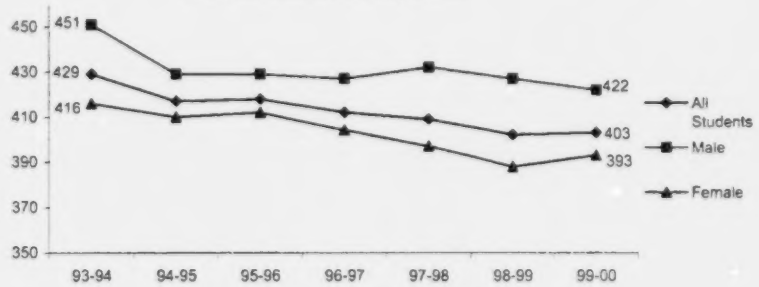
		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		429	417	418	412	409	402	403
Gender	Male	451	429	429	427	432	427	422
	Female	416	410	412	404	397	388	393
Race/Ethnicity	AI/AN	376	403	426	428	389	388	421
	A/PI	492	470	489	528	483	521	484
	B/AA	411	404	403	401	399	388	394
	H/L	486	470	418	450	400	411	434
	W	504	496	500	499	494	504	509
	OT	485	444	438	427	453	423	430

SAT Verbal Scores

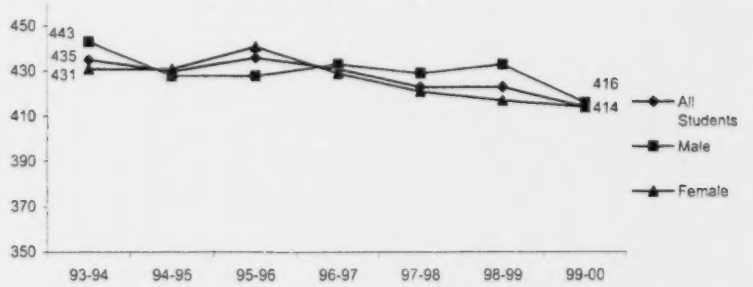
♦ **Verbal - Mean Score Trends**

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		435	430	436	431	423	423	414
Gender	Male	443	428	428	433	429	433	416
	Female	431	431	441	429	421	417	414
Race/Ethnicity	AI/AN	389	409	423	431	405	374	433
	A/PI	399	445	449	495	493	461	449
	B/AA	420	416	424	420	414	413	406
	H/L	488	469	423	448	398	449	466
	W	516	512	521	526	510	521	525
	OT	471	488	468	446	466	435	456

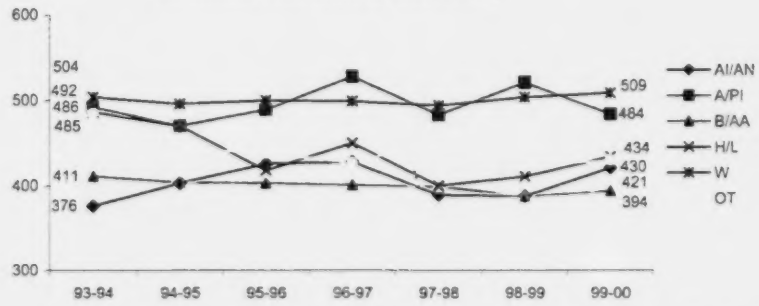
Mathematics Mean Scores by Gender



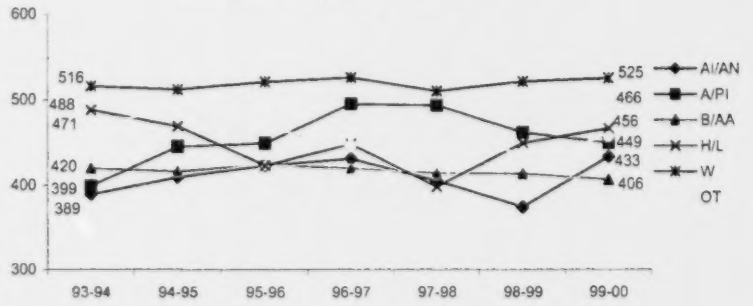
Verbal Mean Scores by Gender



Mathematics Mean Scores by Race/Ethnicity



Verbal Mean Scores by Race/Ethnicity



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Baltimore USI

Cohort/Scale-Up Approach

	94-95	95-96	96-97	97-98	98-99
Number of District Schools*:	*187*	*187*	*187*	185	187
USI Schools**:	NA	NA	53	65	60
% Schools:	NA	NA	28%	35%	32%

*Core Data Elements 2000-2001; ** K-1 2001

Italics: Data Imputed

Primary Decision Making Body

Standards Curriculum	District
Curriculum/TextBook Adoption	District
Student Assessment	State/District
Professional Development	District
Resources	State/District
Teacher Hiring	District
Teacher Contracts	District
Certification & Re-certification	State
Graduation Requirements	State/District
School-Based Management?	No

Policies Promoting Equal Access by All Students in High Quality Education

Student Tracking:

- 3 Mathematics and 3 Science courses required for high school graduation
- Required math and science courses are pre college courses
- All math & science courses are standards-based

Criteria for Entry into High Level Mathematics and Science Courses:

- For Algebra I in 8th grade, passing functional math test & good grades.
- For high school math and science honors courses, good grades & passing the functional math test are required.

Satisfactory completion of prerequisite courses required for entrance to upper-level math and science courses.

Availability of High Level Courses:

- Expanding availability of honors and upper level courses

Special Education and Bilingual Students:

- To an increasing extent, special education students are enrolled as inclusion students in regular classes and provided with additional support

Policies Impacting the Enrollment of Students in Challenging Math and Science Courses

Student Support Systems:

- For promotion, summer school remediation required for elementary students who fail math or score in the lower quartile on CTBS.
- For promotion, summer school remediation required for middle school students who fail math, score in the lower quartile on CTBS or fail the functional math test.
- High school students may retake failed math or science courses in summer school

Tutoring and afterschool programs as needed

Policies Relevant to Curriculum

Framework:

- Maryland Learning Outcomes and Content Standards (elementary and middle)
- Maryland Core Learning Goals (high school)

Curricula:

- District developed curricula based on Maryland frameworks
- E. Math in My World, Discovery Works, FOSS

Curricula Materials:

- M. Middle School Math, Connected Math, Science Explorer Series, Event Based Science
- H. Math and Science Texts specific to courses

New Courses Added -Result of USI?

- No

Instructional Time:

- Elementary Math:180 hours annually
- M.S. math and science:135 hours annually
- H.S:135 hours per course

Standards-based Curriculum and Instruction

Standards Adopted:

- K-8: Maryland Learning Outcomes and Content Standards (Mathematics) based on National Council of Teachers of Mathematics (NCTM) documents
- K-8. Maryland Learning Outcomes and Content Standards (Science) based on American Association for the Advancement of Science (*AAAS*) and National Research Council (*NRC*) standards
- G9-12: Maryland Core Learning Goals based on national documents.

Primary Instructional Strategies:

- Elem/Middle Math: Emphasis is on students explaining and defining ideas, approaches, and solutions orally and in writing using symbols, words and tables.
- Elem/Middle Science: Topics are structured as engagement, exploration, explanation, extension and evaluation.
- High School math and science: In most schools, courses are semester-long, with 90 minute periods. Emphasis is on calculator use in math and laboratory activities in science.

% of Students Expenencing Standards-based Mathematics Curriculums:	E: 90%
	M: 100%
	H: 100%
% of Students Experiencing Standards-based Science Curriculums:	E: 100%
	M: 100%
	H: 100%

E: Elementary School M: Middle School H: High School

Baltimore USI

Policies Relevant to Teacher Qualifications

Certification:
- State determines certification requirements
- Middle school teachers may have K-8 elementary or math or science certification

Requirement & Hiring Practices:
- A vigorous, nationwide recruitment program
- Early contracts to new teachers
- Summer New Educators Professional Development Program

Professional Advancement & Leadership Training:
- 4 levels of professional development for teachers: based on Eisenhower program framework

Contract Requirements:

Professional Development Policies and Practices

Time Required or Supported:
- 20 hours school day city-wide professional development annually.
- Teachers are encouraged to participate in stipend after-school, weekend and summer workshops

Financial Resources Provided:
- NSF and Eisenhower funds for stipends for Saturday and summer participation. City/State partnership funds support 30-60 hour of professional development related to math and science text book adoptions.

Alignment to Student Standards:
- Workshops designed to be comprehensively related to BCPSS Content Standards
- Workshops utilize adopted instructional materials

Measurement of Impact:
- End-of-program participant evaluations

Type and Amount Received by Average Math/Science Teacher:
- Workshops usually are an extended program of 15-30 hours.
- Teachers are encouraged to attend 30 hours annually

Evaluation Instruments:
- Database of hours of teacher participation in all workshops, and summarizing of participation data across all professional development
- Review of end-of-program participant evaluations

Professional Development Alignment to Content Standards Measures:
- Professional Development designed specifically to support standards, materials, curriculum, and assessments

Teacher's Instructional Practices Evaluation:
- Principals observe teachers and conduct a pre and post observation conference. Teachers "needing improvement" also receive written reports.

Impact on Student Achievement:
- Substantial improvements in elementary math achievement on MSPAP are widely credited to the district's systemic reform program for K-5 curriculum revision and ISTs and NSF supported professional development.

Policies Relevant to Standards-based Assessments

Extent to Which Assessments are Aligned to District Standards and Curriculums:
- The BCPSS standards-curricula outline-assessments -professional development linkage requires that district assessment for each grade or course be developed from the Maryland Learning Outcomes (K-8) or Core Learning Goals (9-12) and the curricula outline for that course or grade.

Methods stakeholders are informed of goals, objectives and accomplishments of assessment program:
- A 40-page booklet, "An Overview of Content Standards and Parents and the Community", is distributed to parents and community members. The booklet lists sample content standards: Pre K-G12, for reading/language arts, social studies, math and science. Content standards available on BCPSS website.
- The Maryland School Report and Baltimore City School Report continue to be published annually. MSPAP data is available on a state web site. Newspapers also publish MSPAP results

USI Leadership, Governance, and Management

Superintendent:
- Pre USI to 1996-97- Dr. Walter Amprey
- 1997-98- Superintendent's position restructured into 3 positions- Chief Executive Office, Chief Academic Officer, and Chief Finance Officer. All positions filled 1998-99
- State/District partnership mandated by state board of education to improve failing schools

E: Elementary School M: Middle School H: High School

Baltimore USI

USI Office:

- USI Office housed at and program administrated by Morgan State University (MSU)- PI is Dr. Earl Richardson, Project Director is Dr. Jonathan Wilson of MSU
- USI Project Director, housed at Morgan State University, meets occasionally with the BCPSS instructional service officer or the Office of Science, Mathematics and Health Education (OSHME) supervisor. PD runs BUSI tutoring program, manages NASA SEMAA program
- OSHME supervisor, runs BCPSS math and science programs including curricula writing, assessment development and professional

Community Key Personnel: Teacher Leaders:

- New Baltimore City Board of School Commissioners
- Instructional Support Teachers (IST's) work with teachers during school day through conferencing, coaching, planning, modeling, mentoring, co-teaching, and demonstrating implementation of the curriculum and providing technical assistance.

Partnerships

Other Key Initiatives:

- Eisenhower Professional Development Program
- Title I
- NSF Local Systemic Change grant with the University of Maryland at College Park
- Maryland Equipment Incentive Fund
- Technology Challenge Grants
- Edison Schools (3 schools)
- NSF Teacher Enhancement Grant for STARS- K-5 Science
- Direct Instruction Schools, 15 don't use BCPSS curricula

Community Stakeholders:

- Fund for Educational Excellence
- Baltimore Urban Institute
- Baltimore Education Consortium
- Consortium of Informal Science Institutions
- The Comprehensive Regional Center for Minorities (CRCM)
- Maryland Mathematics Engineering & Science Achievement (MSEA)
- Maryland Collaborative for Teacher Preparation
- The National Technical Association (*NTA*)
- The Academic Champions of Excellence (*ACE*)
- Baltimore Urban League
- Baltimore City Council of Parents and Teachers

Higher Education:

- Baltimore City Community College
- Johns Hopkins University
- Towson University
- University of Maryland, Baltimore County
- Loyola College
- College of Notre Dame in Maryland
- Coppin State College

Business and Industry:

- The new BCPSS Office of Professional Development is developing new internship and certification initiatives with local colleges and universities.
- NSF Ecosystem Study with the University of Maryland, Baltimore County

Other Partnerships:

- Chesapeake Bay Foundation
- Maryland Department of Natural Resources
- Living Classrooms Foundation
- Chesapeake Bay Trust
- Columbus Center for Marine Biotechnology
- Science, Engineering, Mathematics and Aeronautics Academy
- Abell Foundation
- NASA Goddard Space Flight Center
- Howard Hughes Foundation
- The Baltimore Museum of Industry
- Consortium of Informal Science Education Institutions
- Baltimore Zoo
- National Aquarium at Baltimore
- Maryland Science Center
- Irvine Nature Center
- T3 Technology Foundation
- Baltimore City Parks and Recreation
- Port Discovery

Baltimore USI

Policy Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	• Graduation requirement of three years math and three laboratory science courses
1994-95	• Elimination of student tracking in theory. At High School level the multiplicity of leveled Math and Science courses eliminated • Earth Science replaced by Biology in 9th grade. Biology now a required 9th grade course • Algebra I in the 8th grade
1995-96	• Elementary Science instruction given year round • Biology, Chemistry and Physics required for graduation • Algebra, Geometry and an Advanced Math Course required for graduation
1996-97	• No changes reported
1997-98	• Algebra I required in 9th grade. • Enrollment in Algebra I Grade 8 restricted to students with qualifying test scores and/or teacher recommendation; other students required to take Algebra I in grade 9 • State funded high school laboratory renovation program initiated
1998-99	• 25 Laboratories in 9 high schools are renovated & equipped. • Semester long courses taught in 4-period day initiated in most high schools

Curriculum and Instruction Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	• Algebra I taught in (1993-94) G8 • Earth Science the Initial High School Science Course • Elementary Science taught quarterly in three week blocks • Middle School Science taught for one semester per year
1994-95	• No changes reported
1995-96	• M.S. Curriculum revised & available electronically *(BERRI)*
1996-97	• Baltimore City Public School System Elementary Math & Science Curriculum completely revised
1997-98	• Baltimore City Public School System Content Standards in all grades for Math and Science revised and distributed • High school course Curriculum Outlines revised as new instructional materials are purchased; outlines distributed to all teachers •K-5 math curriculum distributed to all teachers
1998-99	• G8 Algebra open only to students with qualifying test scores and/or teacher recommendation • Students in Algebra I, Geometry and Biology I each receive a textbook for school and home use
1999-00	• All elementary schools use same Math & Science text books. • 6-8 science curriculum outline written

Professional Development Policy and Program Changes to Support Teachers During USI Implementation

School Year	Policy Implemented
Before USI	•Eisenhower funding led to design of professional development as follows: Level I- Fundamentals; Level II- Extension and Application; Level III- Leadership Development; Level IV- Advanced Leadership Development •School designed professional development- poorly conceived and implemented •Math and Science professional development episodic and not comprehensive in relationship to curriculum •Little Math and Science professional development available to administrators
1994-95	• Introduction of BUSI-supported Elementary Science Instructional Support Teachers *(IST)* in 8 schools – function is to coach, mentor, and demonstrate implementation of the Curriculum • 25 math and science ISTs to serve 45 schools, and initiation of their preparation through Level III workshops and math content graduate courses • Middle school science teachers required to take 60 hours of Level I and 35 hours of Level II professional development in science concepts and instructional strategies required to implement *BERRI* • High School Math teachers required to attend a workshop in the subject they teach • Teachers are encouraged to take appropriate Level I and II Eisenhower or BUSI-supported workshops.

	• High School Science Teachers required to take 30 hours of Level I and 20 hours of Level II Science Professional Development
1996-97	• NSF and BUSI-supported ISTs in failing elementary schools and BUSI supported ISTs in failing middle and high schools
1997-98	• Summer programs for each teacher of Biology, Algebra I and Geometry. Stipends provided. • Initiation of technology workshops for teachers taught by Texas Instruments consultants, UMCP instructors, or high school math ISTs; secondary teacher receipt of classroom set of calculators contingent upon a training equipment •State funded 30-hour summer workshop offered for all Algebra I, Geometry and Biology teachers
1998-99	• Systemic inclusion of school, area and central office administrators in 3 days of K-G8 Summer Institutes or one day of G9-12 Summer Institutes •State-, Eisenhower, and NSF-funded 60-hour summer workshop offered for all K-5 and 6-8 math teachers and 30-hour workshop for high school teachers
1999-00	• Summer Institute for new BCPSS teachers offered

Standards-based Assessment System Changes During USI Implementation

School Year	Policy Implemented
Before USI	•MSPAP has been mandated by state since 1990, with school-level results closely monitored at the state level. MSPAP is a performance-based assessment in six academic areas, with area-specific and interdisciplinary tasks. MSPAP is administered in five half day sessions in grades 3, 5, 8. •Functional Tests in four academic areas in place since 1995, with passing a state mandated High School graduation requirement. •CTBS was annually administered in each grade.
1994-95	•First Administration of Maryland Functional Mathematics Test changed from grade 9 to grade 7. • State multi-year planning and development process underway for High School Core Learning Goals and Maryland High School Assessment. •A performance-based and holistically scored Baltimore Quarterly Assessment program (BQA) with MSPAP-like tasks was developed for Science and Mathematics, grades 2-8 and implemented.
1995-96	•CTBS was discontinued. •With Algebra I required for all grade 8 students, an end-of-course BCPSS Algebra I test was developed to determine which grade 8 students had successfully completed Algebra I content and could enroll in the next Mathematics course in High School.
	•After a partial second year of experience the BQA fell into disuse and was later discontinued.
1996-97	•Initiation of the California Diagnostic Test program in K-5 Mathematics as a fall pretest.
1997-98	•CTBS was reinstated at all grade levels. • BCPSS Grade 8 Algebra Test for all students is discontinued. •Assessment short response and extended response items. High School Assessments will not be performance based.
1998-99	•Decision to discontinue California Diagnostic Test program. •First distribution of sample Maryland High School Assessment items to teachers of Algebra I, Geometry and Biology, for optional use with students. •Increasing replacement of paper-and-pencil version of MFMT with computer-assisted version. •Planning for initiation of BCPSS-developed mathematics unit tests in elementary and middle grades and high school BCPSS End-of-Course Assessments to parallel state tests
1999-00	•Mathematics unit tests implemented in every grade

March 2002

School District Progress Report

Urban School Key Indicators of Science and Mathematics Education: 2001

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Chicago

Urban School Key Indicators of Science and Mathematics Education: 2001

March 2002

School District Progress Report

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Chicago USI

Program Data

USI Project Title :	Chicago USI
Cohort:	93 (Sept. 94 - Aug. 00)
USI Web Site:	http://www.usi.luc.edu/csi/home.html

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Chicago Public Schools
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• USI Schools Math & Sci. Teachers and Students

99-00	Schools	Teachers	Students
K-G5 (Elementary) *1	460	19,120	316,740
G6-8 (Middle)	-	-	-
G9-12 (High)	74	1,697	95,119
Total	534	20,817	411,859

*1 G6-8 is included in K-G5 (-) Data Missing

Project Summary

The Chicago Systemic Initiative (CSI) is a comprehensive mathematics, science, and technology reform initiative that, during its 5-year funding period, will fundamentally change the way mathematics, science, and technology are presented in grades K-12 in all 553 Chicago public schools. CSI works within the spirit and the letter of the reform law of 1988 that decentralized Chicago public schools and the 1995 Amendatory Act to the Illinois School Code that empowers the Trustees to ensure ongoing academic improvement. The underlying conviction of CSI and its participants is that all children can learn science and mathematics. All providers of mathematics, science, and technology instruction in the metropolitan area will be affected by these changes.

CSI, aligned with the Chicago Public Schools' Children First Education Plan, promotes standards-based instruction as an organizing principle for the various national, state, and local efforts to reform mathematics and science instruction. CSI has identified five significant features to impact systemic change: the formation of design teams, parent/community partnerships, network with internal and external partners, Internet Access and Training, and a Third Annual Resource Menu.

Project Goals

- To improve the scientific and mathematical literacy of all students in the Chicago Public Schools.
- To provide the mathematics and science fundamentals that will permit all students to participate in a technological society.
- To enable a significantly greater number of Chicago students to pursue careers in mathematics, science, engineering, and technology.

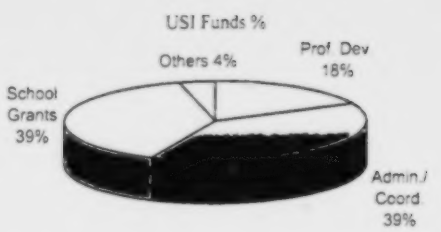
Selected School Indicators (District Average)

	93-94	99-00	Change
%Special Ed.	11.3%	NA	NA
%LEP	14.2%	13.7%	-0.5 PP
%FRL	79.0%	85.6%	+6.6 PP
%Daily Ave. Atten	88.5%	91.6%	+3.1 PP
%Average Retained	NA	NA	NA
%Drop-Out	NA	15.7%	NA
%Mobility	31.0%	26.6%	-4.4 PP
Per Pupil Cost ($)	$6,596	$7,827	+18.7%
Num of Students Per Computer	NA	NA	NA
% Classrooms Internet Access	NA	NA	NA
Average Class Size	25	23	-8.0%

NA: Not Available PP: Percentage Points

District and USI Fund Utilization (SY 1998-99)

	District	USI
Prof. Dev.	30%	18%
Admin./Coord.	40%	39%
School Grants	14%	39%
Others	16%	4%
Total	100%	100%



Chicago USI

Student Demographics (SY 1999-00)

District Total:	411,859	
USI Schools:	411,859	100%

♦ Race/Ethnicity

	93-94	99-00	%	Change
Ame. Ind./Ala. Nat.	818	713	0.2%	-12.8%
Asian/P. Islander	12,270	13,103	3.2%	+6.8%
Black	207,564	216,101	52.5%	+4.1%
Hispanic	114,196	140,617	34.1%	+23.1%
White	43,820	41,325	10.0%	-5.7%
Other	0	0	0.0%	
Total	378,668	411,859		+8.8%
URM Total	322,578	357,431	86.8%	+10.8%

URM: Underrepresented Minority students.

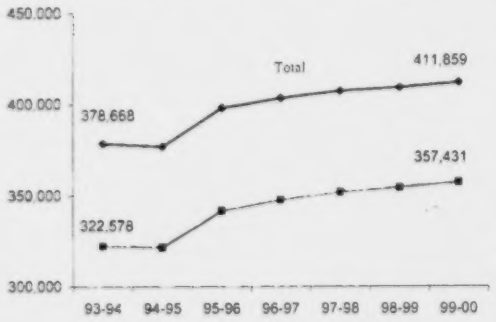
♦ Gender

Male	188,379	203,880	49.5%	+8.2%
Female	190,289	207,979	50.5%	+9.3%

♦ Grade

K-G5	190,801	225,270	54.7%	+18.1%
G6-8	88,462	91,470	22.2%	+3.4%
G9-12	98,448	95,119	23.1%	-3.4%
Ungraded	957	0	0.0%	-100.0%

♦ District-Wide Student Demographic Trends



12th Grade Graduates

	93-94	99-00	Change
Total 12th Grade	16,952	15,139	-11%
Earned a Diploma	15,007	14,875	-1%
% Earned Diploma	89%	98%	+9 PP

% Earned Diploma

98%

College Entrance

	93-94	99-00	Change
2 Yr College	NA	NA	NA
4 Yr College	NA	NA	NA
Other Post-Secon.	NA	NA	NA
Total C. E.	NA	NA	NA
% C. E./Earned Dip.	NA	NA	NA

% College Entrance

High School Graduation Requirements

- Mathematics
  - 3 years of math: Algebra, Geometry, Advanced Algebra/Trigonometry.
- Science
  - 3 years of science: Biology, Earth and Space or Environmental Science, Chemistry or Physics.

NA: Data Not Available PP: Percentage Points

Math and Science Teachers & Certification

♦ Mathematics (G6-12)

		93-94	97-98	Change
G6-8	Teachers	NA	NA	NA
	Certified	NA	NA	NA
	% Cert.	NA	NA	NA
G9-12	Teachers	NA	952	NA
	Certified	NA	NA	NA
	% Cert.	NA	NA	NA
Total	Teachers	NA	952	NA
	Certified	NA	NA	NA
	% Cert.	NA	NA	NA

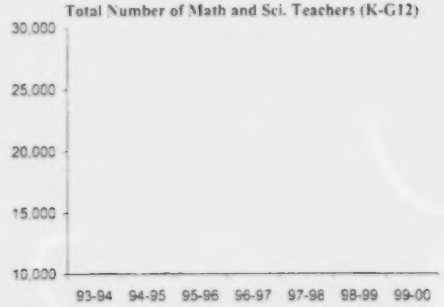
♦ Science (G6-12)

		93-94	97-98	Change
G6-8	Teachers	NA	NA	NA
	Certified	NA	NA	NA
	% Cert.	NA	NA	NA
G9-12	Teachers	NA	745	NA
	Certified	NA	NA	NA
	% Cert.	NA	NA	NA
Total	Teachers	NA	745	NA
	Certified	NA	NA	NA
	% Cert.	NA	NA	NA

♦ Math and Science (K-G5)

		93-94	97-98	Change
K-G5	Teachers	NA	19120	NA

Total Number of Math and Sci. Teachers (K-G12)

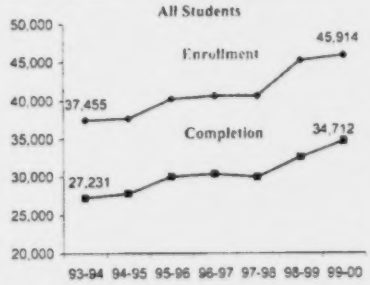


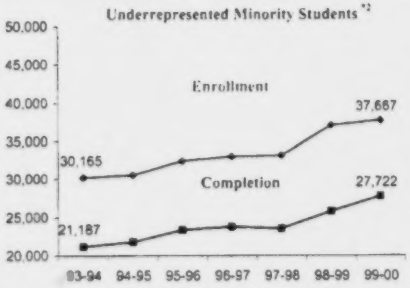
Chicago USI

Mathematics and Science Enrollment & Completion Trends/ All vs. URM

G 9-12 Mathematics Gate-Keeping Courses (Algebra II, Geo., and Calculus)

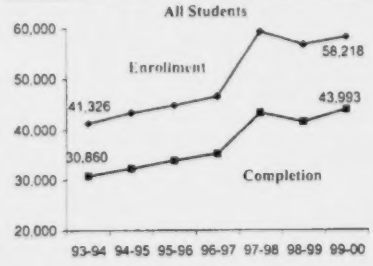
		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		98,448	98,283	98,965	97,101	98,610	95,546	95,119
All Students	Enrollment	37,455	37,635	40,226	40,637	40,628	45,269	45,914
	Completion *1	27,231	27,758	29,997	30,373	29,949	32,610	34,712
	% Enroll/ G9-12	38%	38%	41%	42%	41%	47%	48%
URM *2	Enrollment	30,165	30,544	32,373	32,965	33,074	37,066	37,667
	Completion *1	21,187	21,801	23,366	23,800	23,535	25,804	27,722
	% Enroll/ G9-12	36%	37%	38%	40%	39%	45%	46%

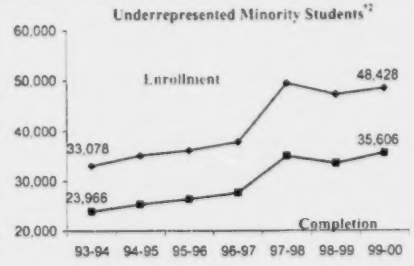




G 9-12 Science Gate-Keeping Courses (Biology 1, Chem. 1, and Physics 1)

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		98,448	98,283	98,965	97,101	98,610	95,546	95,119
All Students	Enrollment	41,326	43,325	44,868	46,550	59,320	56,748	58,218
	Completion *1	30,860	32,290	33,897	35,285	43,369	41,587	43,993
	% Enroll/ G9-12	42%	44%	45%	48%	60%	59%	61%
URM *2	Enrollment	33,078	35,106	36,134	37,840	49,463	47,259	48,428
	Completion *1	23,966	25,365	26,437	27,692	35,014	33,564	35,606
	% Enroll/ G9-12	40%	42%	43%	46%	59%	58%	60%



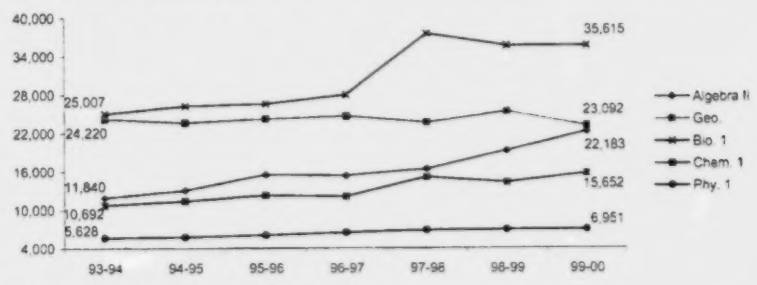


*1 Successful completion: grade 'D' or above.
*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Mathematics and Science Enrollment & Completion Trends By Subject

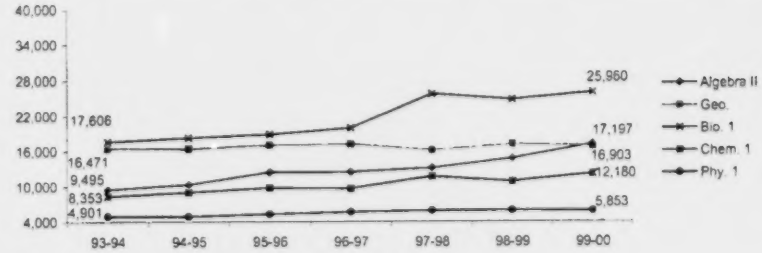
G 9-12 Course Enrollment (All Students)

	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
93-94	11,840	24,220	1,395	37,455	25,007	10,692	5,628	41,326
94-95	12,991	23,600	1,045	37,635	26,242	11,330	5,753	43,325
95-96	15,440	24,204	583	40,226	26,580	12,215	6,073	44,868
96-97	15,307	24,619	712	40,637	28,024	12,054	6,472	46,550
97-98	16,380	23,627	621	40,628	37,468	15,046	6,806	59,320
98-99	19,268	25,315	686	45,269	35,620	14,236	6,892	56,748
99-00	22,183	23,092	639	45,914	35,615	15,652	6,951	58,218



G 9-12 Course Completion *1 (All Students)

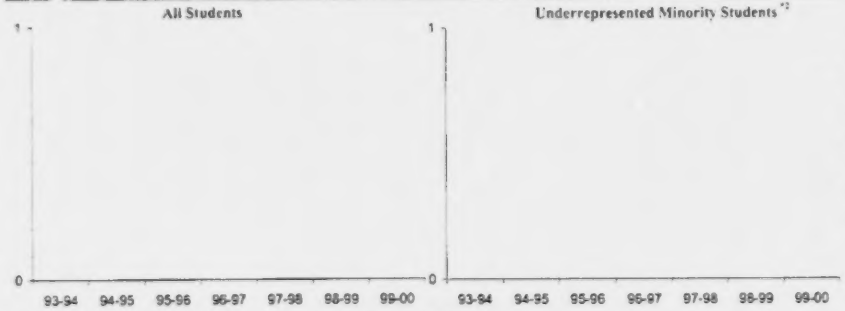
	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
93-94	9,495	16,471	1,266	27,231	17,606	8,353	4,901	30,860
94-95	10,385	16,420	954	27,758	18,322	9,044	4,924	32,290
95-96	12,427	17,018	552	29,997	18,838	9,771	5,288	33,897
96-97	12,491	17,203	679	30,373	19,967	9,677	5,642	35,285
97-98	13,150	16,215	584	29,949	25,733	11,757	5,880	43,369
98-99	14,790	17,162	658	32,610	24,786	10,887	5,914	41,587
99-00	17,197	16,903	612	34,712	25,960	12,180	5,853	43,993



*3 Calculus not represented on graph.

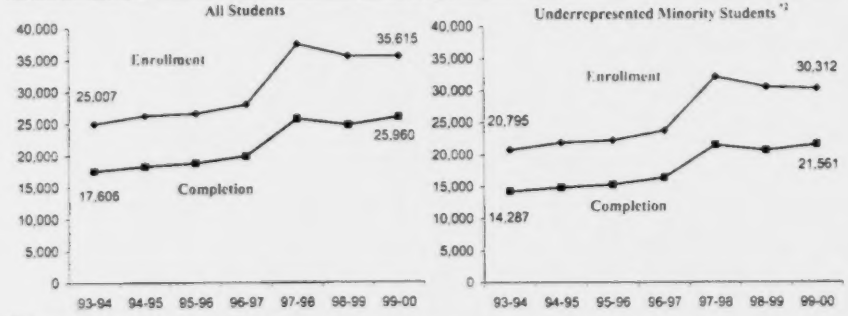
Algebra I or Above in 8th Grade Enrollment & Completion Trends/ All vs. URM

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 8 Population		30,106	28,366	27,520	27,779	30,256	29,624	29,819
All Students	Enrollment	0	0	0	0	0	0	0
	Completion *1	0	0	0	0	0	0	0
	% Enroll/ G8	0%	0%	0%	0%	0%	0%	0%
URM *2	Enrollment	0	0	0	0	0	0	0
	Completion *1	0	0	0	0	0	0	0
	% Enroll/ G8	0%	0%	0%	0%	0%	0%	0%



Biology Enrollment & Completion Trends/ All vs. URM

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students	Enrollment	25,007	26,242	26,580	28,024	37,468	35,620	35,615
	Completion *1	17,606	18,322	18,838	19,967	25,733	24,786	25,960
URM *2	Enrollment	20,795	21,910	22,264	23,744	32,161	30,551	30,312
	Completion *1	14,287	14,853	15,319	16,428	21,506	20,693	21,561



*1 Successful completion: grade 'D' or above.

*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

*3 G6-8 is included in K-G5

Professional Development Participation of Teachers Teaching Mathematics and/or Science

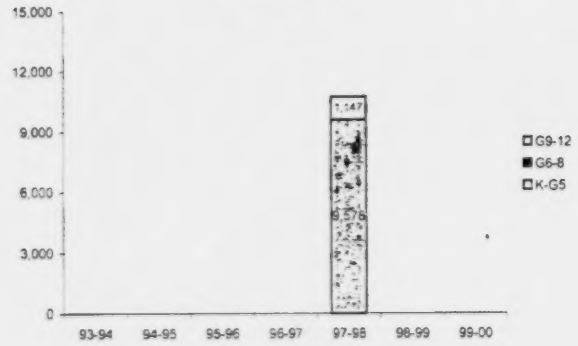
Total Number Teachers by Subject (G6-12)

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Mathematics	NA	NA	NA	NA	NA	NA	NA
Science	NA	NA	NA	NA	NA	NA	NA

Total Number of Teachers Participating in PD by Grade Level

Teachers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total K-G5	NA	NA	NA	NA	NA	NA	NA
# K-G5 Participated	NA	NA	NA	NA	NA	NA	NA
% K-G5 Participated	NA	NA	NA	NA	NA	NA	NA
Total G6-8 *3	NA	NA	NA	NA	NA	NA	NA
# G6-8 Participated	NA	NA	NA	NA	NA	NA	NA
% G6-8 Participated	NA	NA	NA	NA	NA	NA	NA
Total G9-12	NA	NA	NA	NA	NA	NA	NA
# G9-12 Participated	NA	NA	NA	NA	NA	NA	NA
% G9-12 Participated	NA	NA	NA	NA	NA	NA	NA

Number of Teachers Participating in Professional Development by Grade Level Taught



Number of Teachers by Duration of Professional Development

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
1-59 Hours	NA	NA	NA	NA	NA	NA	NA
60-119 Hours	NA	NA	NA	NA	NA	NA	NA
120-200 Hours	NA	NA	NA	NA	NA	NA	NA
More than 200 Hours	NA	NA	NA	NA	NA	NA	NA

NA: Data Not Available

Chicago USI

District Assessment Test Administered

♦ Mathematics

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	ITBS; TAP	ITBS; TAP	ITBS; TAP	ITBS; TAP	ITBS; TAP	ITBS; TAP	ITBS; TAP
Scoring	PC; SN; OT	PC; SN; OT	PC; SN; OT	PC; SN; OT	PC; SN; OT	PC; SN; OT	PC; SN; OT
Grade	G 3-8, 9,11	G 3-8, 9,11	G 3-8, 9,11	G 3-8, 9,11	G 3-8, 9,11	G3-8, 9-11	G3-8, 9-11
Type	NRT	NRT	NRT	NRT	NRT	NRT	NRT

♦ Science

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	ITBS; TAP	ITBS; TAP	ITBS; TAP	ITBS; TAP	ITBS; TAP	ITBS; TAP	ITBS; TAP
Scoring	PC; SN; OT	PC; SN; OT	PC; SN; OT	PC; SN; OT	PC; SN; OT	PC; SN; OT	
Grade	4,8,10	4,8,10	4,8,10	4,8,10	4,8,10	4, 8	Optional
Type	NRT	NRT	NRT	NRT	NRT	NRT	

State Assessment Test Administered

♦ Mathematics

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	IGAP	IGAP	IGAP	IGAP	IGAP	ISAT	ISAT
Scoring	PL; SS	PL; SS	PL; SS	PL; SS	PL; SS	PL; SS	PL; SS
Grade	3, 6, 8, 10	3, 6, 8, 10	3, 6, 8, 10	3, 6, 8, 10	3, 6, 8, 10	3, 5, 10	3, 5, 8
Type	CRT	CRT	CRT	CRT	CRT	CRT	CRT

♦ Science

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	IGAP	IGAP	IGAP	IGAP	IGAP	IGAP	ISAT
Scoring	PL; SS	PL; SS	PL; SS	PL; SS	PL; SS	PL; SS	PL; SS
Grade	4, 7, 11	4, 7, 11	4, 7, 11	4, 7, 11	4, 7, 11	4, 7, 11	4, 7
Type	NRT	NRT	NRT	NRT	NRT	NRT	NRT

* ITBS: Iowa Tests of Basic Skills * TAP: Test of Achievement & Proficiency

* IGAP: Illinois Goal Achievement Program *ISAT: Illinois Standards Acheivement Test

PC: Percentile SN: Stanine PL: Performance Level

PF: Pass/Fail SS: Scaled Score OT: Other

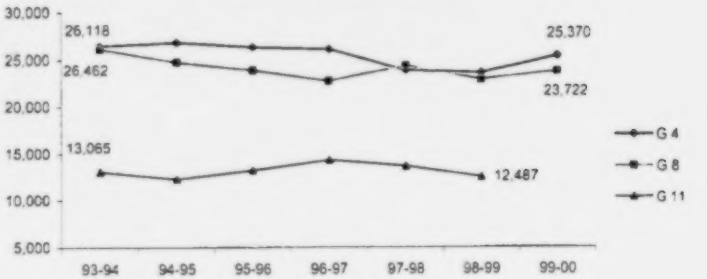
NRT: Norm-Referenced Test CRT: Criterion-Referenced Test

District Assessment Test-Taker Trends - ITBS & TAP

♦ Mathematics

# of Test-takers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4	26,462	26,837	26,304	26,092	23,836	23,552	25,370
Grade 8	26,118	24,750	23,844	22,700	24,340	22,852	23,722
Grade 11	13,065	12,263	13,210	14,307	13,625	12,487	

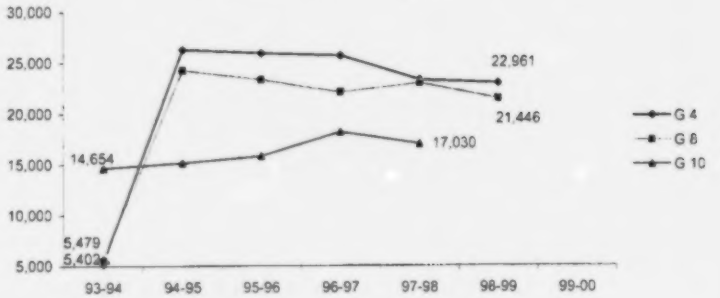
Total number of students taking test



♦ Science

# of Test-takers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4	5,402	26,267	25,951	25,688	23,293	22,961	.
Grade 8	5,479	24,254	23,344	22,091	22,998	21,446	.
Grade 10	14,654	15,148	15,858	18,191	17,030	.	.

Total number of students taking test



(.) Data Missing

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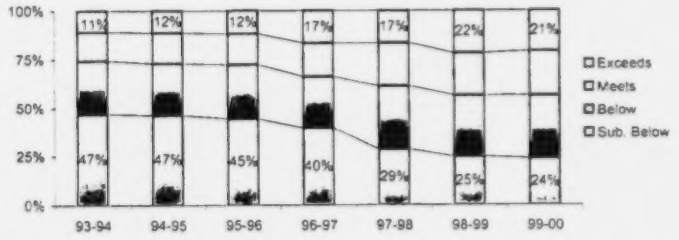
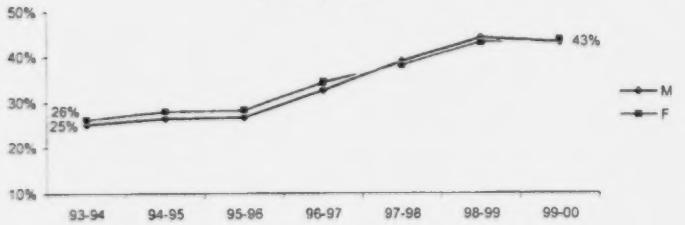
District Assessment Test Result Trends - ITBS Mathematics

• **Grade 4**

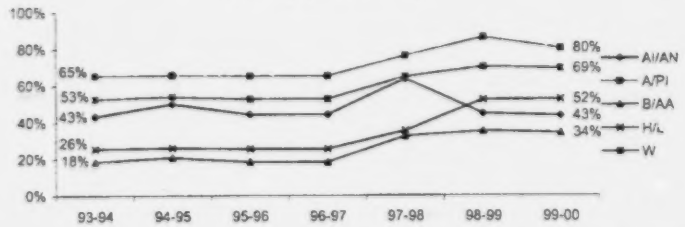
Standards	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Exceeds	11%	12%	12%	17%	17%	22%	21%
Meets	15%	16%	16%	17%	22%	22%	23%
Below	27%	27%	28%	27%	33%	32%	33%
Sub. Below	47%	47%	45%	40%	29%	25%	24%
Total num of students	26,462	26,837	26,304	26,092	23,836	23,552	25,370



% Passing by Gender



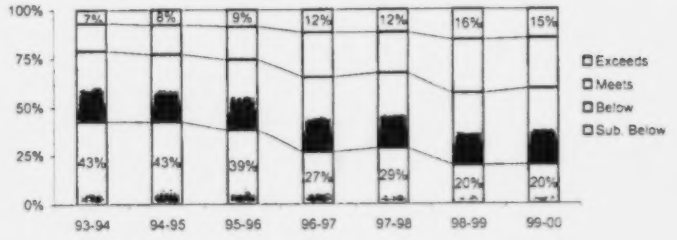
% Passing by Race/Ethnicity



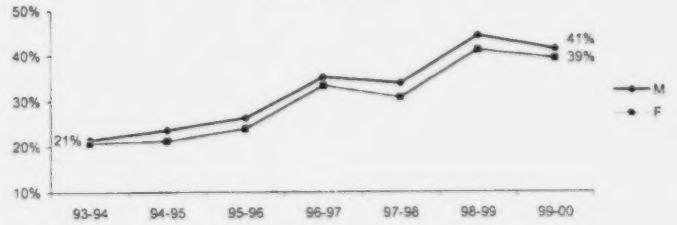
District Assessment Test Result Trends - ITBS Mathematics

• **Grade 8**

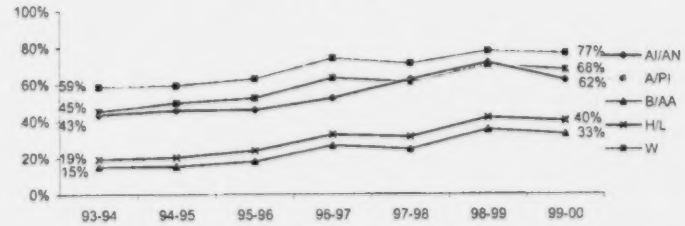
Standards	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Exceeds	7%	8%	9%	12%	12%	16%	15%
Meets	14%	15%	17%	23%	21%	28%	26%
Below	36%	35%	37%	39%	39%	38%	40%
Sub. Below	43%	43%	39%	27%	29%	20%	20%
Total num of students	26,118	24,750	23,844	22,700	24,340	22,852	23,722



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as those students who "Meet" and/or "Exceed" standards

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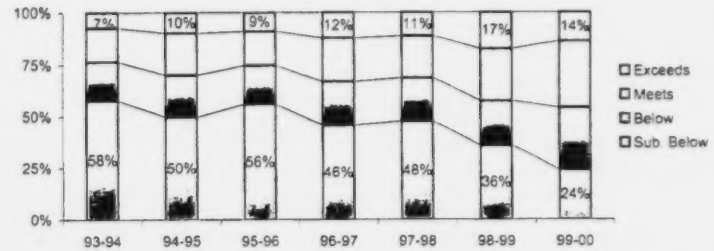
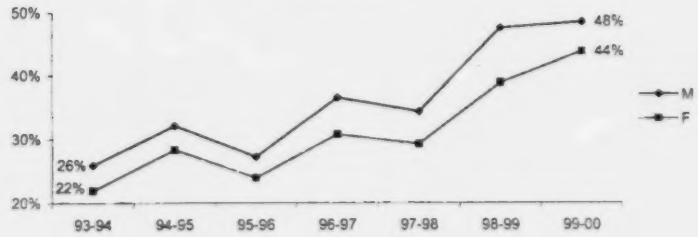
District Assessment Test Result Trends - TAP Mathematics

♦ **Grade 11**

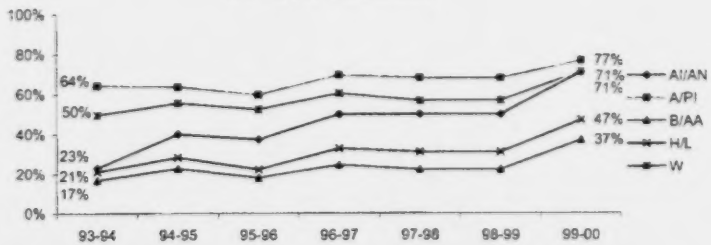
Standards	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Exceeds	7%	10%	9%	12%	11%	17%	14%
Meets	16%	20%	16%	21%	20%	25%	32%
Below	19%	20%	19%	21%	21%	22%	30%
Sub. Below	58%	50%	56%	46%	48%	36%	24%
Total num of students	13,065	12,263	13,210	14,307	13,625	12,487	16,836



% Passing by Gender



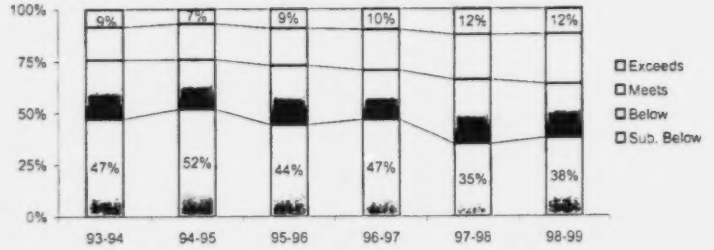
% Passing by Race/Ethnicity



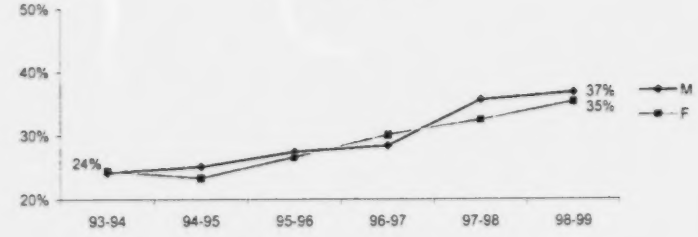
District Assessment Test Results Trends - ITBS Science

♦ **Grade 4**

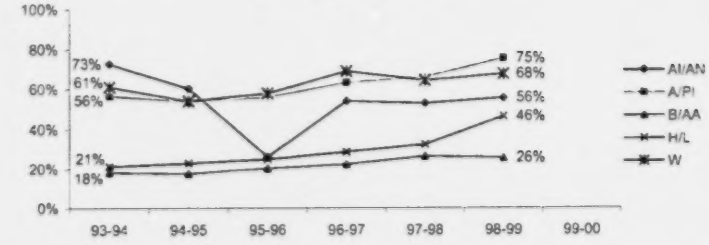
Standards	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Exceeds	9%	7%	9%	10%	12%	12%	.
Meets	16%	17%	18%	19%	22%	24%	.
Below	28%	24%	29%	24%	31%	26%	.
Sub. Below	47%	52%	44%	47%	35%	38%	.
Total num of students	5,402	26,267	25,951	25,688	23,293	22,961	.



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as those students who "Meet" and/or "Exceed" standards (.) Data Missing

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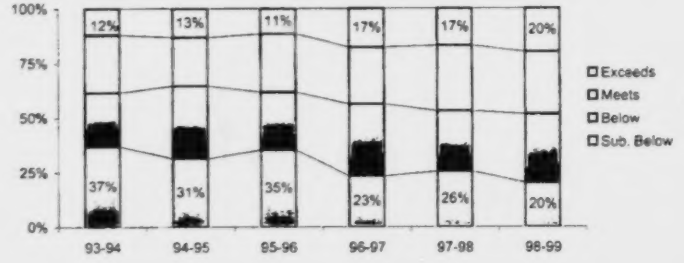
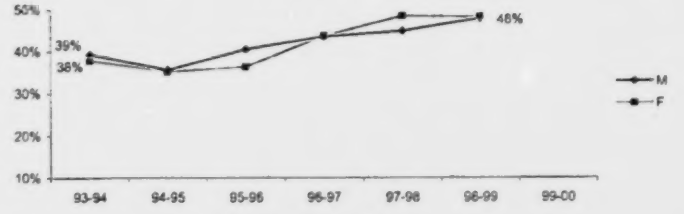
District Assessment Test Results Trends - ITBS Science

♦ **Grade 8**

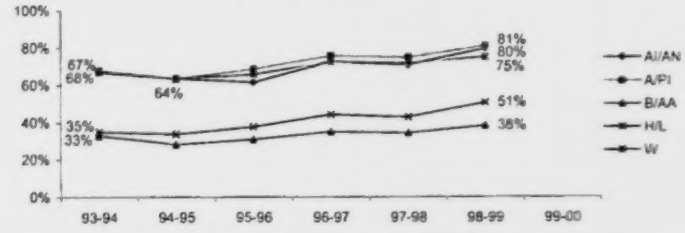
Standards	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Exceeds	12%	13%	11%	17%	17%	20%	.
Meets	27%	22%	27%	26%	30%	29%	.
Below	24%	33%	26%	33%	28%	32%	.
Sub. Below	37%	31%	35%	23%	26%	20%	.
Total num of students	5,479	24,254	23,344	22,091	22,998	21,446	.



% Passing by Gender



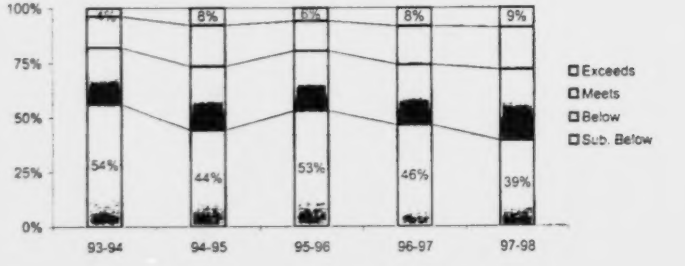
% Passing by Race/Ethnicity



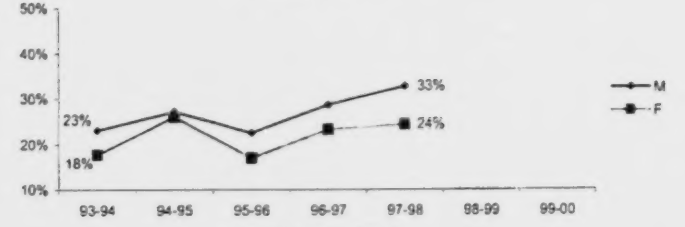
District Assessment Test Results Trends - TAP Science

♦ **Grade 10**

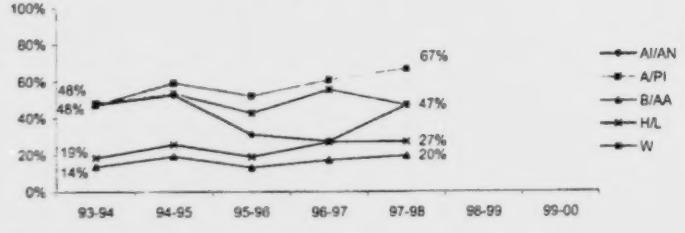
Standards	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Exceeds	4%	8%	6%	8%	9%	.	.
Meets	14%	19%	14%	18%	19%	.	.
Below	25%	29%	27%	28%	33%	.	.
Sub. Below	54%	44%	53%	46%	39%	.	.
Total num of students	14,654	15,148	15,858	18,191	17,030	.	.



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as those students who"Meet" or "Exceed" standards

(.) Data Missing

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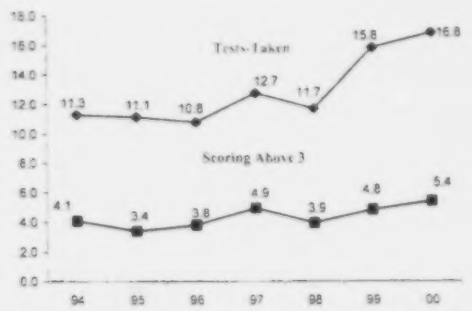
AP Mathematics Test Result Trends • AP Mathematics (Calculus AB, Calculus BC, & Statistics)

• AP Mathematics - Total Number of Tests Taken

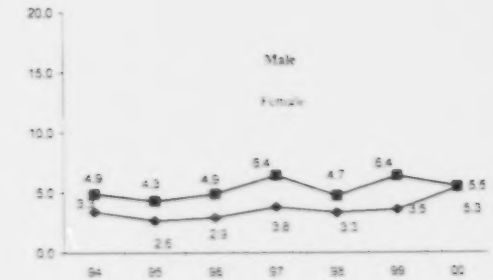
		94	95	96	97	98	99	00
Total num of 11th & 12th students		37,697	36,616	35,471	36,003	37,316	35,765	33,637
Tests Taken	Calc. AB	363	351	340	383	319	401	428
	Calc. BC	62	56	42	38	62	93	95
	Statistics	0	0	0	38	55	72	43
	Total	**425**	**407**	**382**	**459**	**436**	**566**	**566**
Num of tests taken/1,000 stu.		11.3	11.1	10.8	12.7	11.7	15.8	16.8
Scoring Above 3		153	124	134	178	147	173	182
Num of Above 3/ 1,000 students		4.1	3.4	3.8	4.9	3.9	4.8	5.4

Number of tests taken and scoring above 3 per 1,000 students



• AP Mathematics - Number of Students Scoring Above 3 By Gender per 1,000 Students

		94	95	96	97	98	99	00
Score Above 3 per 1,000	Male	4.9	4.3	4.9	6.4	4.7	6.4	5.5
	Female	3.3	2.6	2.9	3.8	3.3	3.5	5.3

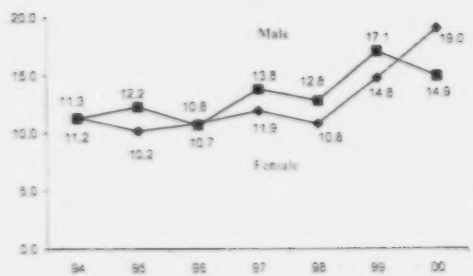


• AP Mathematics - Number of Tests Taken By Gender

Per 1,000 Students

		94	95	96	97	98	99	00
Tests Taken per 1,000	Male	11.2	12.2	10.7	13.8	12.8	17.1	16.9
	Female	11.3	10.2	10.8	11.9	10.8	14.8	19.0

Number of tests taken per 1,000 students by Gender



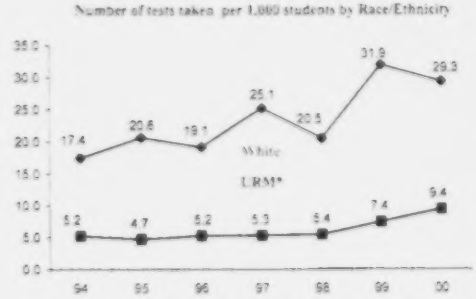
• AP Mathematics - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [*1]

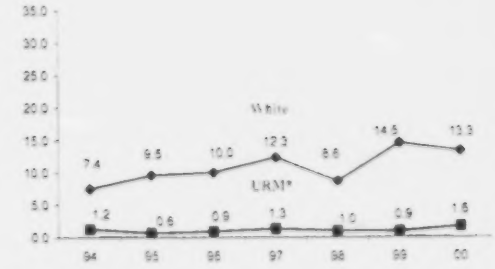
	94	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A/PI	36.3	27.4	24.9	42.4	37.4	43.7	44.2
B/AA	1.2	0.8	0.8	1.1	0.8	0.9	1.6
H/L	1.2	0.3	1.0	1.6	1.2	0.9	1.6
W	7.4	9.5	10.0	12.3	8.6	14.5	13.3

• AP Mathematics - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [*1]

	94	95	96	97	98	99	00
AI/AN	0.0	12.7	29.0	38.5	0.0	0.0	46.9
A/PI	76.3	75.9	64.2	90.9	79.3	102.4	97.7
B/AA	4.4	3.2	3.7	3.9	4.0	5.3	7.7
H/L	6.7	6.5	7.6	7.6	8.0	10.9	11.9
W	17.4	20.6	19.1	25.1	20.5	31.9	29.3

Number of tests taken per 1,000 students by Race/Ethnicity





AI/AN: American Indian/Alaskan Native. A/PI: Asian/Pacific Islander
B/AA: Black or African American. H/L: Hispanic or Latino. W: White
[*1] "Other" category not presented

*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

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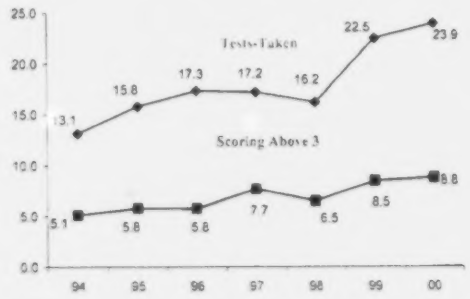
AP Science Test Result Trends

♦ AP Science (Biology, Chemistry, Environ. Sci., Phy. B, Phy. C Mech., & Phy. C Elec.

♦ AP Science - Total Number of Tests Taken

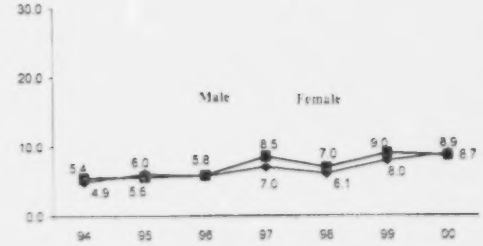
		94	95	96	97	98	99	00
Total num of 11th & 12th students		37,697	36,616	35,471	36,003	37,316	35,765	33,637
Tests Taken	Biology	221	239	252	206	223	251	251
	Chem.	174	191	217	237	175	216	216
	Enviro. Sci.	0	0	0	0	17	39	39
	Physics B	82	81	76	112	124	240	237
	Ph. C Mech.	9	57	53	43	42	34	38
	Ph. C Elec.	8	11	17	21	23	23	23
	Total	**494**	**579**	**615**	**619**	**604**	**803**	**804**
Num of tests taken/1,000 stu.		13.1	15.8	17.3	17.2	16.2	22.5	23.9
Scoring Above 3		193	213	205	277	242	303	296
Num of Above 3/ 1,000 students		5.1	5.8	5.8	7.7	6.5	8.5	8.8

Number of tests taken and scoring above 3 per 1,000 students



♦ AP Science - Number of Students Scoring Above 3 By Gender per 1,000 Students

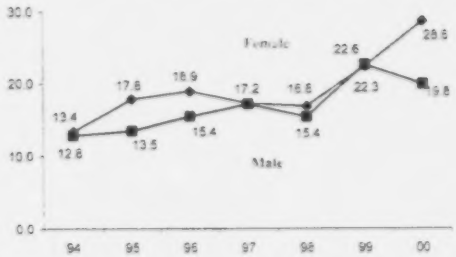
		94	95	96	97	98	99	00
Score Above 3 per 1,000	Male	5.4	5.6	5.8	8.5	7.0	9.0	8.7
	Female	4.9	6.0	5.8	7.0	6.1	8.0	8.9



♦ AP Science - Number of Tests Taken By Gender Per 1,000 Students

		94	95	96	97	98	99	00
Tests Taken per 1,000	Male	12.8	13.5	15.4	17.2	15.4	22.6	19.8
	Female	13.4	17.8	18.9	17.2	16.8	22.3	28.6

Number of tests taken per 1,000 students by Gender



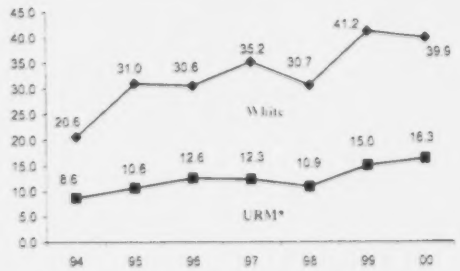
♦ AP Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students[*1]

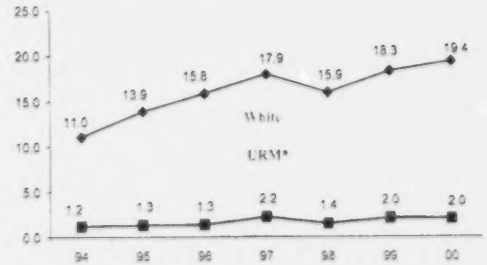
	94	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0	0.0	15.6
A/PI	40.5	54.2	41.7	57.9	59.2	80.0	84.9
B/AA	1.2	1.2	1.3	2.0	1.1	1.7	1.7
H/L	1.1	1.4	1.3	2.4	2.0	2.6	2.5
W	11.0	13.9	15.8	17.9	15.9	18.3	19.4

♦ AP Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students[*1]

	94	95	96	97	98	99	00
AI/AN	19.6	25.3	14.5	38.5	16.1	0.0	15.6
A/PI	85.3	119.2	107.6	111.8	117.8	164.0	175.1
B/AA	10.0	12.9	15.3	15.1	12.6	17.2	18.4
H/L	5.9	6.5	7.7	7.2	7.7	11.5	13.0
W	20.6	31.0	30.6	35.2	30.7	41.2	39.9

Number of tests taken per 1,000 students by Race/Ethnicity





AI/AN: American I AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White

[*1] "Other" category not presented

*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

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AP Computer Science Test Result Trends

♦ AP Computer Science - Total Number of Tests Taken

		94	95	96	97	98	99	00
Total num of 11th & 12th students		37,697	36,616	35,471	36,003	37,316	35,765	33,637
Tests Taken	Comp. Sci A	59	38	28	19	30	62	28
	Comp. Sci. AB	9	31	8	0	8	11	14
	Total	**68**	**69**	**36**	**19**	**38**	**73**	**42**
Num of tests taken/1,000 stu.		1.8	1.9	1.0	0.5	1.0	2.0	1.2
Scoring Above 3		7	12	3	1	4	17	16
Num of Above 3/ 1,000 students		0.2	0.3	0.1	0.0	0.1	0.5	0.5

♦ AP Computer Science - Number of Tests Taken By Gender

Per 1,000 Students

		94	95	96	97	98	99	00
Tests Taken per 1,000	Male	2.5	2.9	1.6	0.7	1.8	2.5	1.5
	Female	1.2	1.0	0.5	0.4	0.4	1.7	1.0

♦ AP Computer Science - Number of Tests Taken By Race/Ethnicity

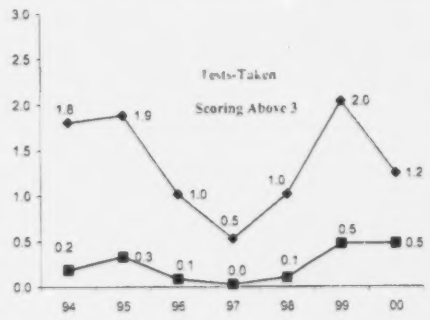
Per 1,000 Students [1]

	94	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A/PI	11.7	14.8	6.4	2.8	5.6	8.6	4.1
B/AA	0.3	0.4	0.1	0.0	0.0	0.6	0.8
H/L	1.7	1.2	0.6	0.5	1.2	1.6	1.2
W	3.4	4.1	3.7	1.8	2.7	5.2	1.7

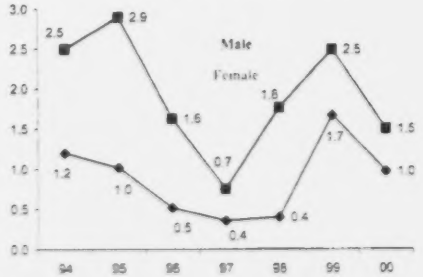
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[1] "Other" category not presented

♦ AP Computer Science (Computer Science A & AB)

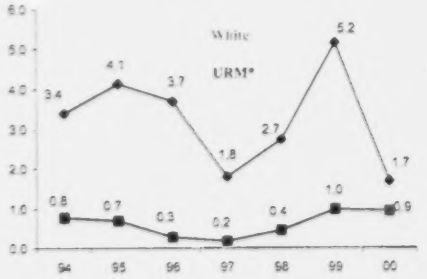
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender



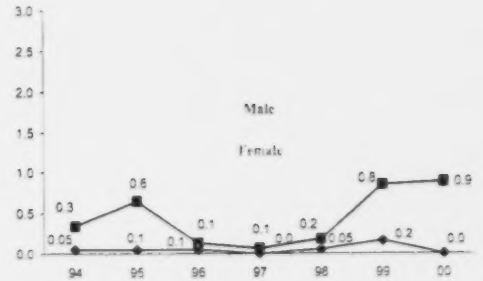
Number of tests taken per 1,000 students by Race/Ethnicity



*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

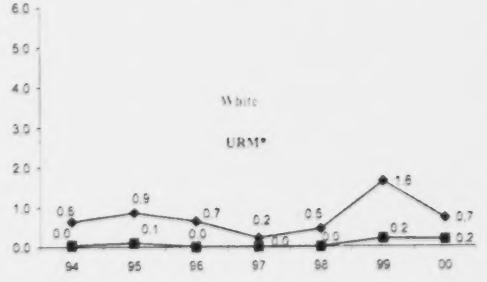
♦ AP Computer Science - Number of Students Scoring Above 3 by Gender per 1,000 Students

		94	95	96	97	98	99	00
Score Above 3 per 1,000	Male	0.3	0.6	0.1	0.1	0.2	0.8	0.9
	Female	0.0	0.1	0.1	0.0	0.0	0.2	0.0



♦ AP Computer Science - Number of Students Scoring Above 3 by Race/Ethnicity per 1,000 Students [1]

	94	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A/PI	1.6	2.3	0.0	0.0	1.1	1.2	3.5
B/AA	0.0	0.1	0.0	0.0	0.0	0.3	0.2
H/L	0.1	0.1	0.0	0.0	0.0	0.0	0.1
W	0.6	0.9	0.7	0.2	0.5	1.6	0.7



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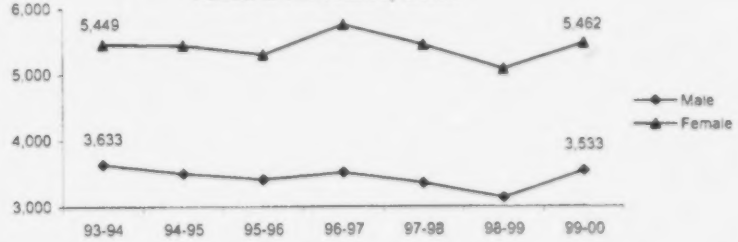
ACT Test-Takers

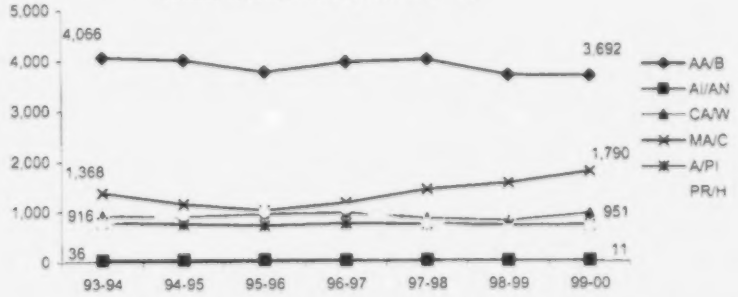
♦ **Number of Test-Takers**

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		15,834	15,666	14,498	15,578	16,526	16,172	15,139
Test-Takers		9,082	8,938	8,705	9,260	8,796	8,219	9,020
Num of Test-Takers/1,000 Stu		574	571	600	594	532	508	596
Gender	Male	3,633	3,500	3,410	3,511	3,354	3,132	3,533
	Female	5,449	5,438	5,295	5,749	5,442	5,068	5,462
Race/Ethnicity	AA/B	4,066	4,012	3,779	3,969	4,019	3,705	3,692
	AI/AN	36	38	30	25	23	12	11
	CA/W	916	898	944	965	856	805	951
	MA/C	1,368	1,144	1,017	1,157	1,426	1,554	1,790
	A/PI	788	751	718	758	743	714	720
	PR/H	771	932	982	1,036	758	618	688

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity

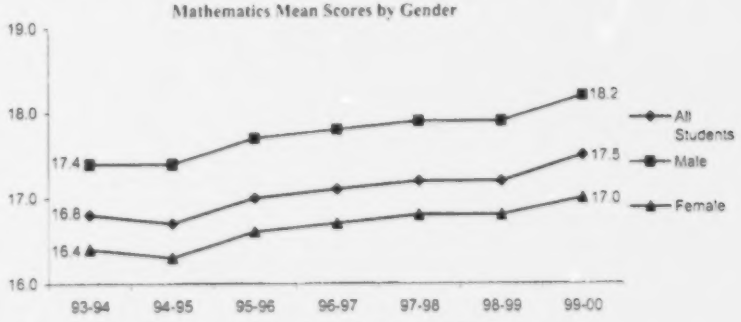


ACT Mathematics Scores

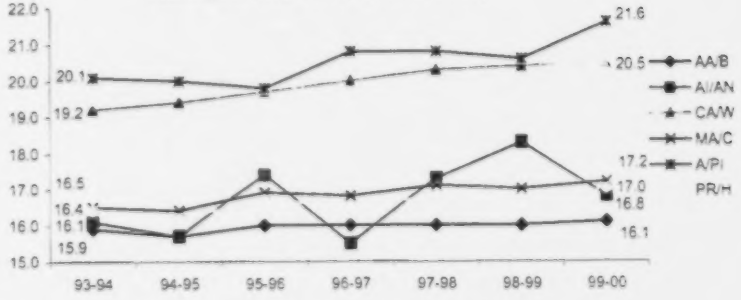
♦ **Mathematics - Mean Score Trends**

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		16.8	16.7	17.0	17.1	17.2	17.2	17.5
Gender	Male	17.4	17.4	17.7	17.8	17.9	17.9	18.2
	Female	16.4	16.3	16.6	16.7	16.8	16.8	17.0
Race/Ethnicity	AA/B	15.9	15.7	16.0	16.0	16.0	16.0	16.1
	AI/AN	16.1	15.7	17.4	15.5	17.3	18.3	16.8
	CA/W	19.2	19.4	19.7	20.0	20.3	20.4	20.5
	MA/C	16.5	16.4	16.9	16.8	17.1	17.0	17.2
	A/PI	20.1	20.0	19.8	20.8	20.8	20.6	21.6
	PR/H	16.4	16.2	16.7	16.5	16.8	16.6	17.0

Mathematics Mean Scores by Gender



Mathematics Mean Scores by Race/Ethnicity



AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.

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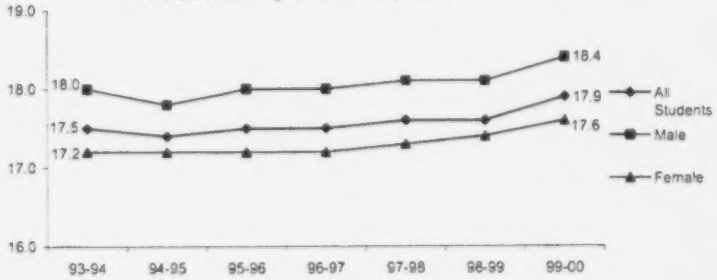
ACT Science Reasoning Scores

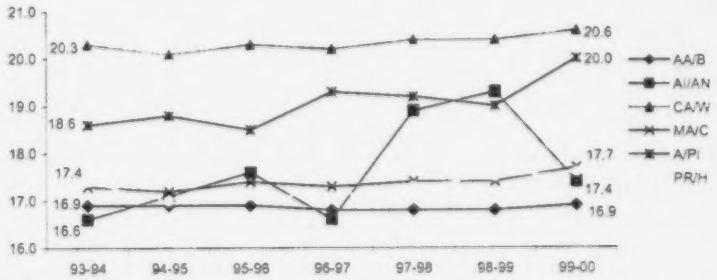
♦ **Science Reasoning - Mean Score Trends**

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		17.5	17.4	17.5	17.5	17.6	17.6	17.9
Gender	Male	18.0	17.8	18.0	18.0	18.1	18.1	18.4
	Female	17.2	17.2	17.2	17.2	17.3	17.4	17.6
Race/Ethnicity	AA/B	16.9	16.9	16.9	16.8	16.8	16.8	16.9
	AI/AN	16.6	17.1	17.6	16.6	18.9	19.3	17.4
	CA/W	20.3	20.1	20.3	20.2	20.4	20.4	20.6
	MA/C	17.3	17.2	17.4	17.3	17.4	17.4	17.7
	A/PI	18.6	18.8	18.5	19.3	19.2	19.0	20.0
	PR/H	17.4	17.0	17.1	17.1	17.3	17.5	17.6

Science Reasoning Mean Scores by Gender



Science Reasoning Mean Scores by Race/Ethnicity



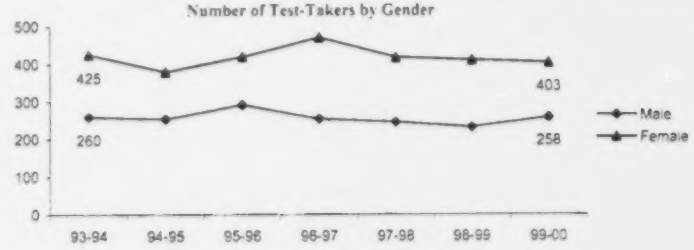
AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.

SAT Test-Takers

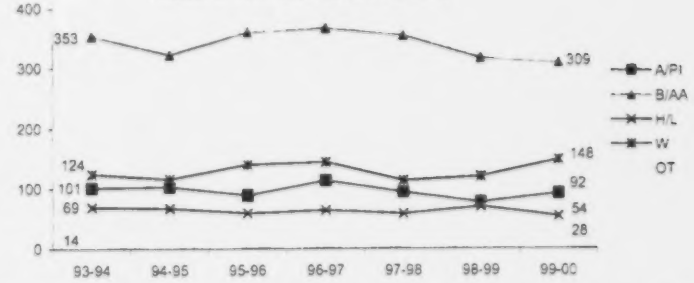
♦ **Number of Test-Takers**

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		15,834	15,666	14,498	15,578	16,526	16,172	15,139
Test-Takers		685	634	711	725	663	641	661
Num of Test-Takers/1,000 Stu		43	40	49	47	40	40	44
Gender	Male	260	254	292	254	245	231	258
	Female	425	380	419	471	418	410	403
Race/Ethnicity	AI/AN [1]	2	3	6	3	1	2	1
	A/PI	101	103	89	113	94	77	92
	B/AA	353	322	360	366	354	316	309
	H/L	69	67	59	64	58	70	54
	W	124	116	140	144	113	120	148
	OT	14	15	27	21	21	31	28

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

[1] Number of Test Takers less than 5 not presented in graph

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SAT Mathematics Scores

♦ Mathematics - Mean Score Trends

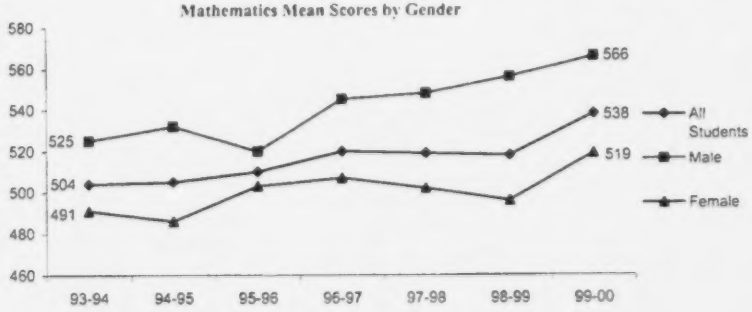
		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		504	505	510	520	519	518	538
Gender	Male	525	532	520	545	548	556	566
	Female	491	486	503	507	502	496	519
Race/Ethnicity	AI/AN *1	-	-	420	-	-	-	-
	A/PI	565	561	613	587	590	612	623
	B/AA	463	464	458	470	469	458	474
	H/L	495	492	509	520	547	496	522
	W	574	577	583	592	598	613	620
	OT	509	490	559	525	537	529	536

SAT Verbal Scores

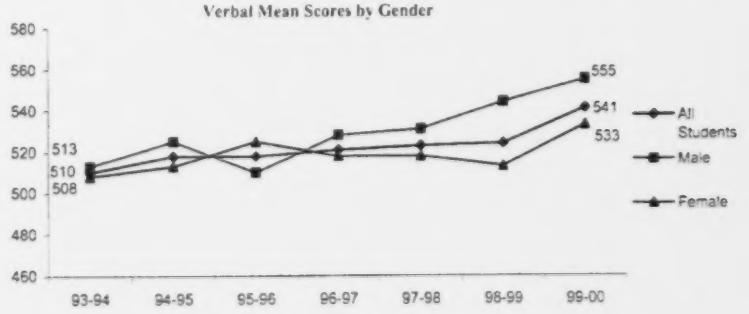
♦ Verbal - Mean Score Trends

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		510	518	518	521	523	524	541
Gender	Male	513	525	510	528	531	544	555
	Female	508	513	525	518	518	513	533
Race/Ethnicity	AI/AN *1	-	-	403	-	-	-	-
	A/PI	490	510	558	518	550	563	565
	B/AA	484	491	481	489	480	471	488
	H/L	495	510	515	505	558	514	528
	W	607	604	594	603	604	627	630
	OT	516	531	584	560	561	552	569

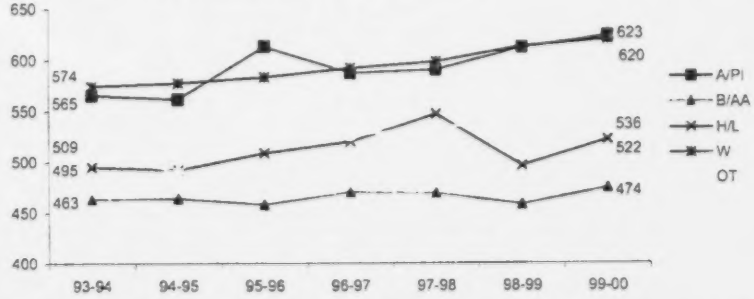
Mathematics Mean Scores by Gender



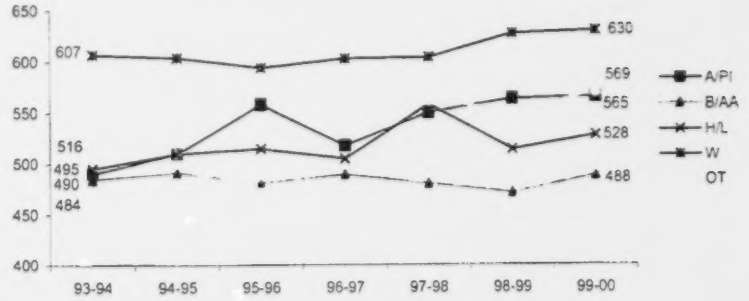
Verbal Mean Scores by Gender



Mathematics Mean Scores by Race/Ethnicity



Verbal Mean Scores by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

*1 Mean score not presented for sample size less than 5

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Cohort/Scale-Up Approach

	94-95	95-96	96-97	97-98	98-99	99-00
Number of District Schools*	*100*	*203*	*235*	*303*	*425*	534
USI Schools**:	100	203	303	425	534	*534*
% Schools:	100%	100%	129%	140%	126%	100%

*Core Data Elements 2000; ** K-1 2001

Italics: Data Imputed

Primary Decision Making Body

Standards Curriculum	District
Curriculum/TextBook Adoption	District
Student Assessment	State
Professional Development	School
Resources	District
Teacher Hiring	School
Teacher Contracts	District
Certification & Re-certification	State
Graduation Requirements	District
School-Based Management?	Yes

Policies Promoting Equal Access by All Students in High Quality Education

Student Tracking:
- Core curricula for all students

Criteria for Entry into High Level Mathematics and Science Courses:
- Must complete 3 years of mathematics and science before upper level enrollment.

Availability of High Level Courses:
- All high level mathematics and science courses offered in all high schools
- Area universities and community colleges offer special courses for high school students.

Special Education and Bilingual Students:
- The mathematics and science core curricula requirements impact special education and bilingual students by reauthorization of IDEA. Students and teachers receive additional assistance to implement the mathematics and science Chicago Academic Standards

Policies Impacting the Enrollment of Students in Challenging Math and Science Courses

Attendance :
- Students must attend school at least 149 days out of 189

Guidance:

Student Support Systems:
- Crisis intervention team
- 10,000 tutors program
- Homework Hotline

Others:
- Local Schools Council
- Parents as Teachers First
- Parent Resource Center

Policies Relevant to Curriculum

Framework:
- Chicago Academic Standards (CAS)

Curricula:

Curricula Materials:
- Chicago Core Curricula

New Courses Added as a Result of USI:
- The University of Chicago Calculus Support Class

Instructional Time:
- Standardized instructional time for mathematics and science
- Science laboratory opportunities

Standards-based Curriculum and Instruction

Standards Adopted:
- Illinois State Goals and Standards
- National Council of Teachers of Mathematics K G8
- Chicago Academic Standards

Primary Instructional Strategies:
- Constructivist approach utilizing hands-on tasks
- *H: science experiences in high quality laboratories

% of Students Experiencing Standards-based Mathematics Curricula:	*E: 95% H: 85%
% of Students Experiencing Standards-based Science Curricula:	E: 95% H: 85%

Policies Relevant to Teacher Qualifications

Certification:
- Initial: Valid for 4 years of teaching and not renewable
- Standard: Valid for 5 years of teaching and renewable on basis of continuing professional development
- Master: Valid for ten years and renewable based on evidence of continuing professional development

Requirement & Hiring Practices:
- Department of Human Resources recruits teachers and establishes hiring practices

Professional Advancement & Leadership Training:
- Medill Professional Training Center

Contract Requirements:
- Multiple year Union and Board of Education agreements aligned teacher contracts with job requirements

*E: Elementary School (K-G8) *H: High School (G9-12)

Chicago USI

Professional Development Policies and Practices

Time Required or Supported:	• 120 continuing education units for professional growth or 8 semester hours of credit to maintain certification
Financial Resources Provided:	• Block Grants allocated to schools to provide financial resources for professional development • Competitive grant awarded to Columbia College to provide mathematics and science content courses for high school teachers
Alignment to Student Standards:	• Staff from CSI and CPS Teachers Academy for Professional Development monitor all district provided professional development activities to ensure the training received prepares teachers to implement standards-based instructional programs • Teachers receive "Standards-based Instruction Manual" distributed by the CPS Teacher's Academy and implemented through CSI training
Measurement of Impact:	• Student Achievement Scores
Other:	• Every teacher completes an Individual Improvement Plan (IIP) that identifies professional development needs
Type and Amount Received by Average Math/Science Teacher:	• Monthly use of Local School Teacher Facilitators (LSF) with additional professional development opportunities provided weekly by CSI, other units and university partners

Evaluation Instruments:	
Professional Development Alignment to Content Standards Measures:	• CEO Research Team • Comparison of standardized data
Teacher's Instructional Practices Evaluation:	• Administrator's evaluation and observation • Quality Reviews • CEO Research Team
Impact on Student Achievement:	• Office of Research and Accountability

Policies Relevant to Standards-based Assessments

Extent to Which Assessments are Aligned to District Standards and Curricula:	• Completely aligned
Methods stakeholders are informed of goals, objectives and accomplishments of assessment program:	• Chicago Education Newspaper • School and USI Web sites • Cable access program • Parent Guides distributed by Department of Curriculum and Instruction • Illinois State Board of Education publishes report card for all Illinois public schools. • Parent and Community Workshops

USI Leadership, Governance, and Management

Superintendent:	• Superintendent's position split between Chief Executive Officer and Chief Education Officer. Both are appointed by the Mayor with input from an advisory board
USI Office:	• Dr. Cozette Buckney (new Chief Education Officer) appointed as Co-PI for USI • Director, a former CPS administrator, reports directly to executive education CEO • CSI has an expanded management team
Community Key Personnel:	
Teacher Leaders:	• Local School Teacher Facilitators (LSF)

Chicago USI

Partnerships

Other Key Initiatives:	• Detroit USI
	• LETUS- Northwestern University
Community Stakeholders:	• Lincoln Park Zoo
	• Chicago Park Service
	• Midwest Consortium for Mathematics and Science
	• Illinois State Board of Education
	• North Central Educational Laboratory
Higher Education:	• Loyola University
	• Chicago State University
	• University of Michigan
	• Northwestern University
	• Columbia College
	• Aurora University
	• DePaul University
	• Northwestern University
Business and Industry:	• IBM
	• AT & T
	• Motorola
	• Kraft
	• BP-Amoco
	• Illinois
Other Partnerships:	• National Science Foundation
	• Chicago Bulls
	• Rosenbaum Foundation
	• Polk Brothers Foundation
	• Rush Presbyterian -St. Luke's Hospital Program
	• College Excel
	• Cisco Networking

Policy Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	• Very few policies supported mathematics and science before the USI implementation. CPS used minimum State of Illinois course requirements for mathematics and science.
1994-95	• Mathematics and Science Graduation Requirement • Mathematics and Science Task Force Reports
1995-96	• Chicago Academic Standards and Curriculum Framework Statements (CAS and CFS) • Elementary and High School Promotion Policy
1996-97	• CPS Design for High Schools- core curricula for all students • Capital Improvement of Science Laboratories
1997-98	• Chicago Academic Standards Examination • 8th grade students enrolled in algebra and biology classes may take the CASE examination
1998-99	• Elementary and High School Promotion Policy established
1999-00	• New immigrant teachers hired for subjects where there is a critical shortage including math and science

Curriculum and Instruction Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	• Frameworks or standards were not defined
1994-95	• Mathematics and Science Graduation Requirement: three years each mathematics and laboratory-based science required for graduation • Mathematics and Science Task Force Reports
1995-96	• Implementation of the Chicago Academic Standards and Curriculum Framework Statements • Mathematics curriculum for the Summer Bridge Program
1996-97	• CPS Design for High Schools: Core Mathematics and Science Curricula for all high school students • Mathematics and Science High School Programs of Study
1997-98	• Middle School Mathematics and Science Programs of Study • Structured curricula for schools on probation
1998-99	• No changes reported
1999-00	• Office of Curriculum Instruction and Professional Development is created to coordinate all math and science initiatives

Professional Development Policy and Program Changes to Support Teachers During USI Implementation

School Year	Policy Implemented
Before USI	• Professional development was not focused to support mathematics and science instruction.
1994-95	• Local School Teacher Facilitators (LSF) first hired • Staff Development Opportunities for Teachers-Mathematics, Science, and Technology Courses
1995-96	• CSI Resource Menu for Mathematics, Science, and Technology
1996-97	• Implemented the Teachers Academy for Professional Growth • CSI cluster network meetings for mathematics and science teachers
1997-98	• Changed the Teachers Academy for Professional Growth to Teachers Academy for Professional Development • Columbia College Grant to upgrade the mathematics and science content skills of high school teachers for standards-based instruction
1998-99	• CPS requires teachers to receive 120 continuing education units for professional growth • CSI Professional Development Team
1999-00	• Office of Teacher Re-certification & Professional Standards will assist teachers through the state mandated process of re-certification. Each teacher presents a professional development plan.

Standards-based Assessment System Changes During USI Implementation

School Year	Policy Implemented
Before USI	• CPS did not have a standards-based assessment
1994-95	• No changes reported
1995-96	• No changes reported
1996-97	• No changes reported
1997-98	• Chicago Academic Standards Examination
1998-99	• CASE Middle Grade Pilot
1999-00	• Prairie State Achievement Exams replace ISAT testing at the high school level. PSAE provides aligned assessment scores and is published by ACT. Students will be tested in G9, G10 (Fall) and G11 (Spring).

March 2002

Urban School Key Indicators of Science and Mathematics Education: 2001

School District Progress Report

BEST COPY AVAILABLE

Dallas USI

Program Data

USI Project Title :	Dallas USI
Cohort:	93 (Sept. 94 - Aug. 00)
USI Web Site:	http://www.dallas.isd.tenet.edu

• PI, CO-PI and PD

	PI/ General Superintendent
Dr. Mike Moses	T (972) 925-3200
	superintendent@dallasisd.org
	Acting PD/ Coordinator
Dr. Queen Henderson	T (972) 925-3871
	qhenders@dallasisd.org

• USI Data Manager/Evaluator

	Data Manager/Program Evaluator
Dr. Mike Dryden	T (972) 925-3173 F (972) 925-3501
	mdryden@dallasisd.org

• Mailing Address

Dallas Public Schools
3709 Ross Ave.
P.O. Box 59
Dallas, Texas 75204

• USI Schools Math & Sci. Teachers and Students

99-00	Schools	Teachers	Students
K-G5 (Elementary)	152	3,574	93,796
G6-8 (Middle)	38	426	23,232
G9-12 (High)	28	561	35,755
Total	218	4,561	152,783

Project Summary

The Dallas Urban Systemic Initiative (DUSI) seeks to: (1) improve the scientific and mathematical literacy of all district students; (2) provide the science and mathematics fundamentals that will permit all students to participate fully in a technological society; and (3) enable a significantly greater number of these students to pursue careers in science, mathematics, engineering, and technology.
The proposal has six components: (1) program leadership; (2) total quality management; (3) integrated curriculum; (4) interactive learning; (5) teacher enhancement; and (6) aligned assessment and accountability.

This Initiative has implemented a management structure for the Dallas Independent School District (DISD) based on the principles of total quality management (TQM) and a K-12 science, mathematics, and technology curriculum. The implementation and delivery of the Initiative is supported by ongoing professional development activity for all teachers and by the use of educational technology in all classrooms. The Initiative is further supported by new District policies, by the redirection of resources within the District, and by the integration of a variety of resources from the science-rich and other community partners.

The USI initiative has allowed the District to implement standards-based, nationally recognized programs such as the National Urban Coalition's Family Math and Science, Project SEED, FOSS, GEMS, AIMS, Science 2000, CEPUP and SEPUP. In addition, a $2 million IBM Reinventing Education Grant has been acquired to integrate math, science, and technology.
Point of Contact teachers for each school were selected through the Initiative to share information on the latest curricula materials and on events that impact science instruction as a part of the National Science Teachers Association (NSTA) Texas model for Building a Presence for Science.

Project Goals

All DISD students, upon graduation, will be prepared to succeed in the scientific and technological workplace of the 21st century. Students in all racial, ethnic, and gender groups will be qualified for higher education and able to compete for careers in science, mathematics, and engineering.

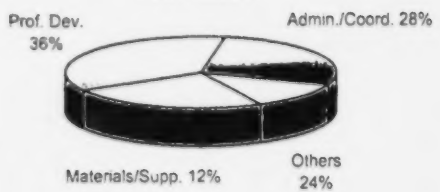
Selected School Indicators (District Average)

	93-94	99-00	Change
%Special Ed.	9.0%	6.9%	-2.1 PP
%LEP	23.0%	34.6%	+11.6 PP
%FRL	69.0%	69.2%	+0.2 PP
%Daily Ave. Atten.	93.5%	·	·
%Average Retained	5.0%	·	·
%Drop-Out	3.8%	·	·
%Mobility	32.2%	·	·
Per Pupil Cost ($)	·	·	·
Num of Students Per Computer	·	·	·
% Classrooms Internet Access	·	·	·
Average Class Size	·	·	·

(·) Data Missing PP: Percentage Points

District and USI Fund Utilization (SY 1999-00)

	District	USI
Prof. Dev.	3%	36%
Admin./Coord.	11%	28%
Materials/Supp.	21%	12%
Others	65%	24%
Total	100%	100%



Dallas USI

Student Demographics (SY 1999-00)

District Total:	152,783	
USI Schools:	152,783	100%

♦ Race/Ethnicity

	93-94	99-00	%	% Change
Ame. Ind./Ala. Nat.	616	628	0.4%	+1.9%
Asian/P. Islander	2,436	2,277	1.5%	-6.5%
Black	61,164	57,969	37.9%	-5.2%
Hispanic	54,378	78,734	51.5%	+44.8%
White	19,272	13,175	8.6%	-31.6%
Other	0	0	0.0%	·
Total	137,866	152,783		+10.8%
URM Total	116,158	137,331	89.9%	+18.2%

URM: Underrepresented Minority students.

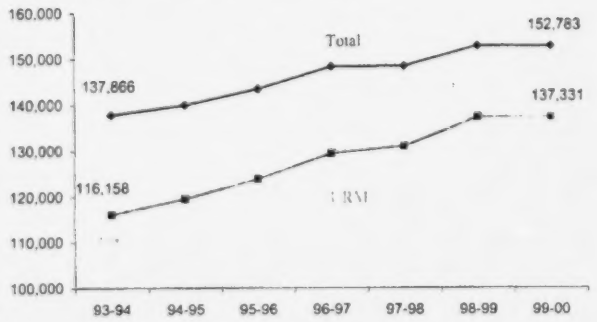
♦ Gender

Male	69,995	77,152	50.5%	+10.2%
Female	67,871	75,631	49.5%	+11.4%

♦ Grade

K-G5	73,583	74,570	48.8%	+1.3%
G6-8	31,327	31,687	20.7%	+1.1%
G9-12	32,397	33,770	22.1%	+4.2%
Ungraded	559	0	0.0%	-100.0%

♦ District-Wide Student Demographic Trends



12th Grade Graduates

	93-94	99-00	Change
Total 12th Grade	5,180	5,874	+13%
Earned a Diploma	4,600	5,206	+13%
% Earned Diploma	89%	89%	+0 PP

% Earned Diploma

College Entrance

	93-94	99-00	Change
2 Yr College	466	·	·
4 Yr College	950	1,489	+57%
Other Post-Secon.	108	·	·
Total C. E.	1,524	1,489	-2%
% C. E./Earned Dip.	33%	29%	-4 PP

% College Entrance

High School Graduation Requirements (SY 99-00)

- Mathematics
  - 4 Years
  - Pass End-of-Course exam for each core course
- Science
  - 4 Years
  - Pass End-of-Course exam for each core course

(·) Data Missing PP: Percentage Points

Math and Science Teachers & Certification

♦ Mathematics (G6-12)

		97-98	99-00	Change
G6-8	Teachers	·	232	·
	Certified	·	·	·
	% Cert.	·	·	·
G9-12	Teachers	·	303	·
	Certified	·	·	·
	% Cert.	·	·	·
Total	Teachers	·	535	·
	Certified	·	·	·
	% Cert.	·	·	·

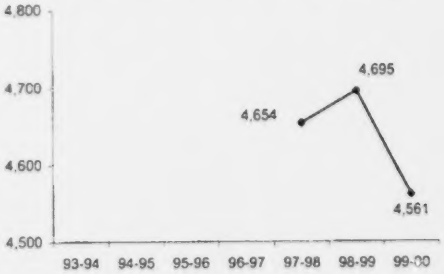
♦ Science (G6-12)

		97-98	99-00	Change
G6-8	Teachers	·	194	·
	Certified	·	·	·
	% Cert.	·	·	·
G9-12	Teachers	·	258	·
	Certified	·	·	·
	% Cert.	·	·	·
Total	Teachers	·	452	·
	Certified	·	·	·
	% Cert.	·	·	·

♦ Math and Science (K-G5)

		93-94	99-00	Change
K-G5	Teachers	3,335	3,574	·

Total Number of Math and Sci. Teachers (K-G12)

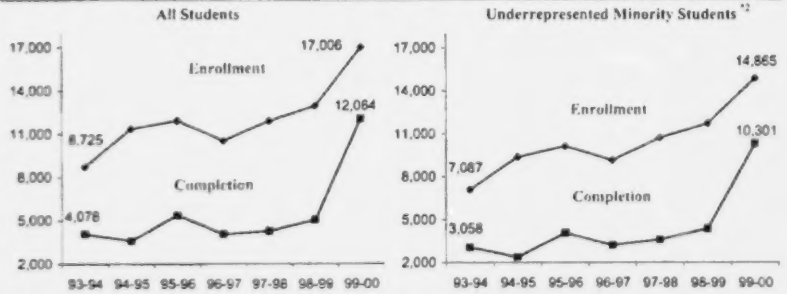


Dallas USI

Mathematics and Science Enrollment & Completion Trends/ All vs. URM

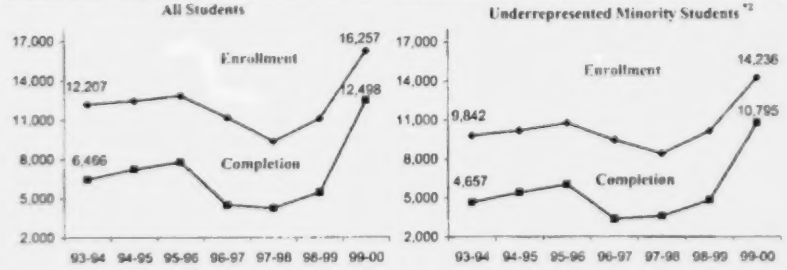
G 9-12 Mathematics Gate-Keeping Courses (Algebra II, Geo., and Calculus)

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		32,397	33,235	34,238	35,553	33,968	36,453	35,755
All Students	Enrollment	8,725	11,382	11,956	10,534	11,904	12,928	17,006
	Completion *1	4,078	3,612	5,381	4,066	4,291	5,049	12,064
	% Enroll/ G9-12	27%	34%	35%	30%	35%	35%	48%
URM *2	Enrollment	7,087	9,370	10,143	9,149	10,704	11,731	14,865
	Completion *1	3,058	2,391	4,086	3,218	3,617	4,374	10,301
	% Enroll/ G9-12	26%	33%	35%	30%	36%	37%	47%



G 9-12 Science Gate-Keeping Courses (Biology 1, Chem. 1, and Physics 1)

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		32,397	33,235	34,238	35,553	33,968	36,453	35,755
All Students	Enrollment	12,207	12,467	12,862	11,186	9,384	11,103	16,257
	Completion *1	6,466	7,244	7,824	4,497	4,255	5,440	12,498
	% Enroll/ G9-12	38%	38%	38%	31%	28%	30%	45%
URM *2	Enrollment	9,842	10,202	10,761	9,486	8,426	10,162	14,236
	Completion *1	4,657	5,403	6,061	3,399	3,609	4,822	10,795
	% Enroll/ G9-12	36%	36%	37%	31%	29%	32%	45%

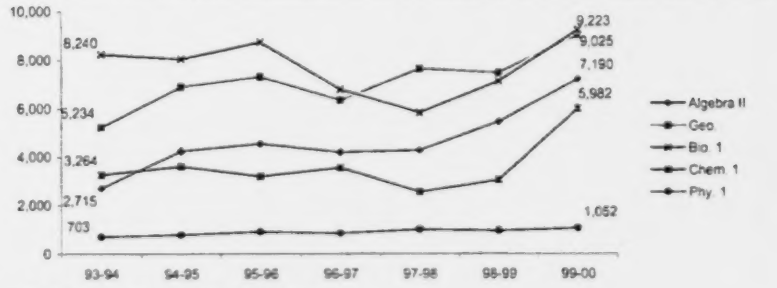


*1 Successful completion: grade 'D' or above.
*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Mathematics and Science Enrollment & Completion Trends By Subject

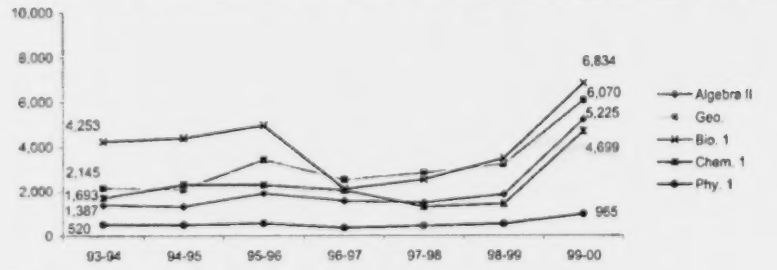
G 9-12 Course Enrollment (All Students)

	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
93-94	2,715	5,234	776	8,725	8,240	3,264	703	12,207
94-95	4,245	6,901	236	11,382	8,049	3,619	799	12,467
95-96	4,551	7,317	88	11,956	8,753	3,195	914	12,862
96-97	4,193	6,341	0	10,534	6,779	3,555	852	11,186
97-98	4,270	7,634	0	11,904	5,833	2,548	1,003	9,384
98-99	5,456	7,472	0	12,928	7,113	3,040	950	11,103
99-00	7,190	9,025	791	17,006	9,223	5,982	1,052	16,257



G 9-12 Course Completion *1 (All Students)

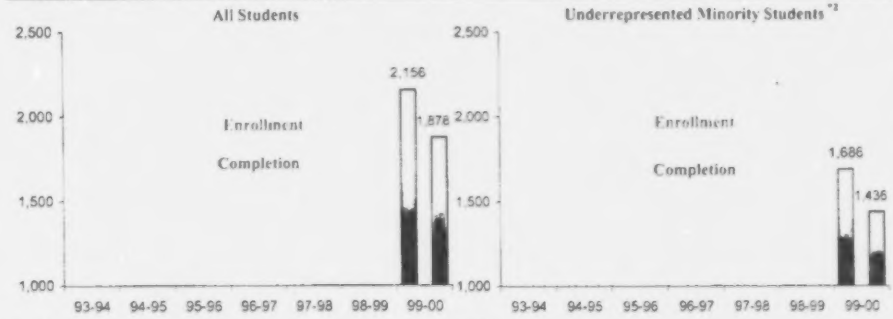
	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
93-94	1,387	2,145	546	4,078	4,253	1,693	520	6,466
94-95	1,323	2,107	182	3,612	4,416	2,318	510	7,244
95-96	1,908	3,433	40	5,381	4,970	2,290	564	7,824
96-97	1,552	2,514	0	4,066	2,097	2,038	362	4,497
97-98	1,474	2,817	0	4,291	2,518	1,291	446	4,255
98-99	1,841	3,208	0	5,049	3,479	1,424	537	5,440
99-00	5,225	6,070	769	12,064	6,834	4,699	965	12,498



*3 Calculus not represented on graph. (.) Data Missing

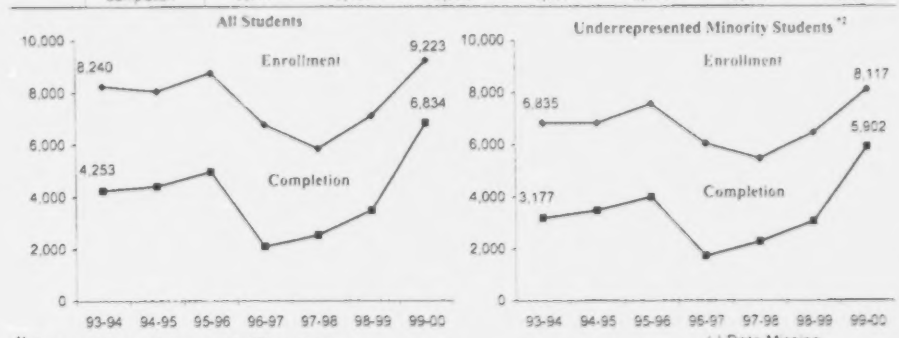
Algebra I or Above in 8th Grade Enrollment & Completion Trends/ All vs. URM

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 8 Population		9,904	9,857	10,309	10,679	10,453	10,668	10,978
All Students	Enrollment	NA	NA	NA	NA	NA	NA	2,156
	Completion *1	NA	NA	NA	NA	NA	NA	1,878
	% Enroll/ G8	NA	NA	NA	NA	NA	NA	20%
URM *2	Enrollment	NA	NA	NA	NA	NA	NA	1,686
	Completion *1	NA	NA	NA	NA	NA	NA	1,436
	% Enroll/ G8	NA	NA	NA	NA	NA	NA	17%



Biology Enrollment & Completion Trends/ All vs. URM

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students	Enrollment	8,240	8,049	8,753	6,779	5,833	7,113	9,223
	Completion *1	4,253	4,416	4,970	2,097	2,518	3,479	6,834
URM *2	Enrollment	6,835	6,839	7,566	6,033	5,459	6,450	8,117
	Completion *1	3,177	3,481	3,996	1,717	2,274	3,044	5,902



*1 Successful completion: grade 'D' or above.

*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

(.) Data Missing

Professional Development Participation of Teachers Teaching Mathematics and/or Science

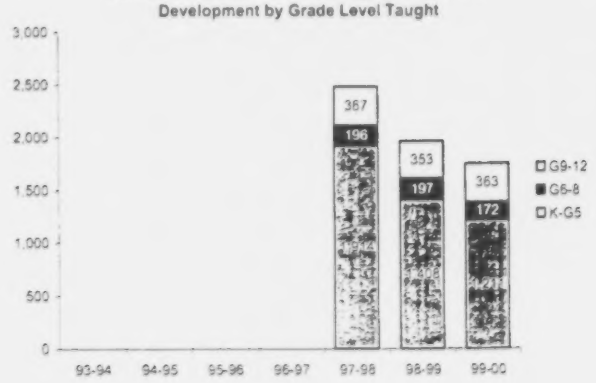
Total Number Teachers by Subject (G6-12)

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Mathematics	.	220	.	381	763	523	535
Science	.	195	.	.	556	501	452

Total Number of Teachers Participating in PD by Grade Level

Teachers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total K-G5	.	.	.	1,464	3,335	3,671	3,574
# K-G5 Participated	.	.	.	.	1,214	1,408	1,211
% K-G5 Participated	.	.	.	.	57%	38%	34%
Total G6-8	.	.	.	154	643	437	426
# G6-8 Participated	.	.	.	.	196	197	172
% G6-8 Participated	.	.	.	.	30%	45%	40%
Total G9-12	.	415	.	227	676	587	561
# G9-12 Participated	.	.	.	.	367	353	363
% G9-12 Participated	.	.	.	.	54%	60%	65%

Number of Teachers Participating in Professional Development by Grade Level Taught



Number of Teachers by Duration of Professional Development

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
1-59 Hours					2,243	1,943	1,745
60-119 Hours					189	12	1
120-200 Hours					45	3	0
More than 200 Hours					0	0	0

Dallas USI

District Assessment Test Administered

♦ Mathematics

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	ACP	ACP	ACP	ACP	ACP	ACP	ACP
Scoring	PF	PF	PF	PF	PF	PF	PF
Grade	G 9-12	G 9-12	G 9-12	G 9-12	G 9-12	G 9-12	G 9-12
Type	CRT	CRT	CRT	CRT	CRT	CRT	CRT

♦ Science

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	ACP	ACP	ACP	ACP	ACP	ACP	ACP
Scoring	PF	PF	PF	PF	PF	PF	PF
Grade	G 9-12	G 9-12	G 9-12	G 9-12	G 9-12	G 9-12	G 9-12
Type	CRT	CRT	CRT	CRT	CRT	CRT	CRT

State Assessment Test Administered

♦ Mathematics

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	TAAS	TAAS	TAAS	TAAS	TAAS	TAAS	TAAS
Scoring	PF	PF	PF	PF	PF	PF	PF
Grade	G 3-8, 10	G 3-8, 10	G 3-8, 10	G 3-8, 10	G 3-8, 10	G 3-8, 10	G 3-8, 10
Type	CRT	CRT	CRT	CRT	CRT	CRT	CRT

♦ Science

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	TAAS	TAAS	TAAS	TAAS	TAAS	TAAS	TAAS
Scoring	PF	PF	PF	PF	PF	PF	PF
Grade	G8	G8	G8	G8	G8	G8	G8
Type	CRT	CRT	CRT	CRT	CRT	CRT	CRT

* ACP: Assessment of Course Performance

* TAAS: Texas Assessment of Academic Skills

PC: Percentile SN: Stanine PL: Performance Level

PF: Pass/Fail SS: Scaled Score OT: Other

NRT: Norm-Referenced Test CRT: Criterion-Referenced Test

State Assessment Test-Taker Trends Texas Assessment (TAAS)

♦ Mathematics

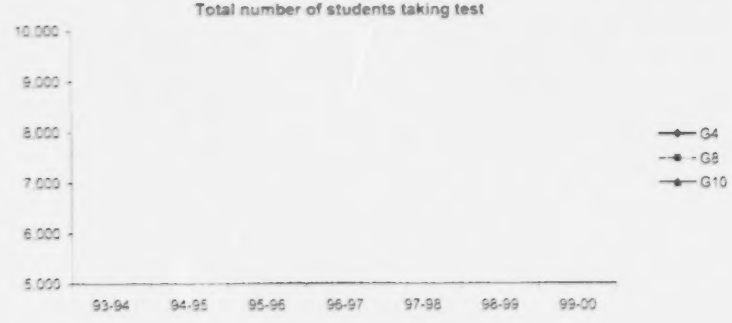
# of Test-takers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4							
Grade 8							
Grade 10							

Total number of students taking test

♦ Science

# of Test-takers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4							
Grade 8							
Grade 10							

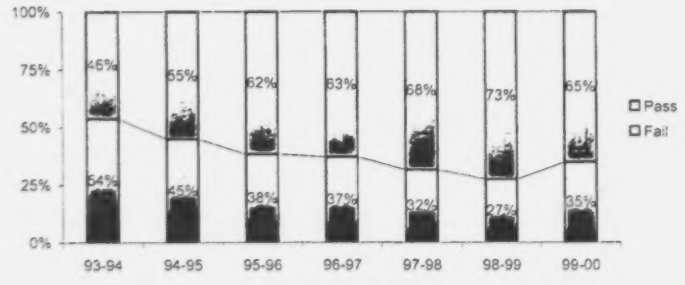
Total number of students taking test



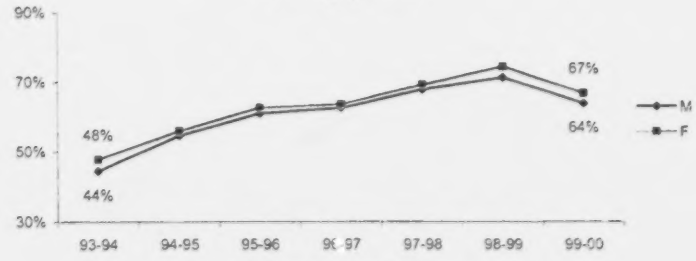
State Assessment Test Result Trends (TAAS) - Mathematics

♦ Grade 4

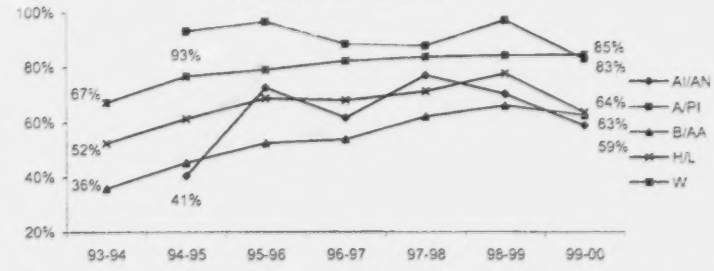
TAAS	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Pass	46%	55%	62%	63%	68%	73%	65%
Fail	54%	45%	38%	37%	32%	27%	35%
Total num of students							



% Passing by Gender



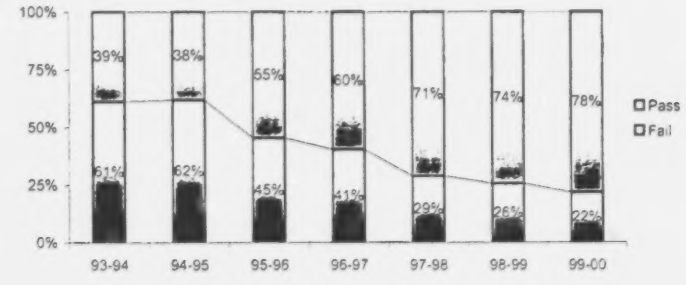
% Passing by Race/Ethnicity



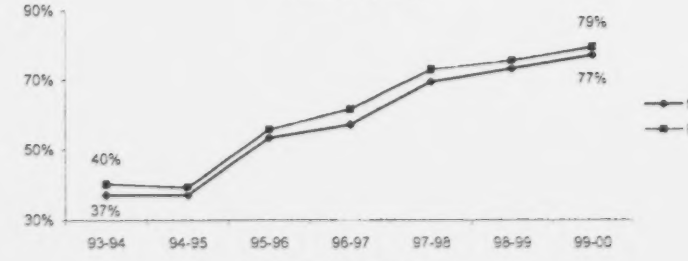
State Assessment Test Result Trends (TAAS) - Mathematics

♦ Grade 8

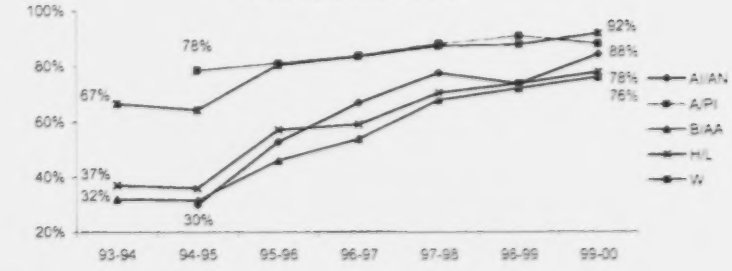
TAAS	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Pass	39%	38%	55%	60%	71%	74%	78%
Fail	61%	62%	45%	41%	29%	26%	22%
Total num of students							



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

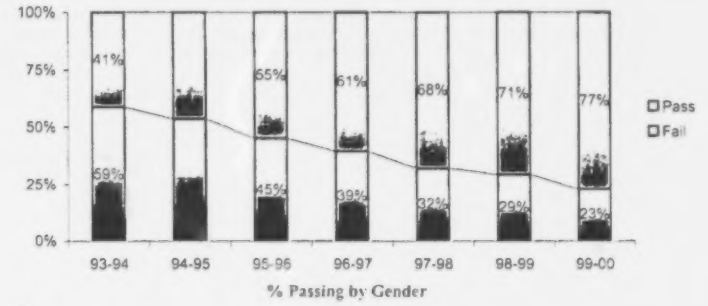
% Passing defined as Pass

Dallas USI

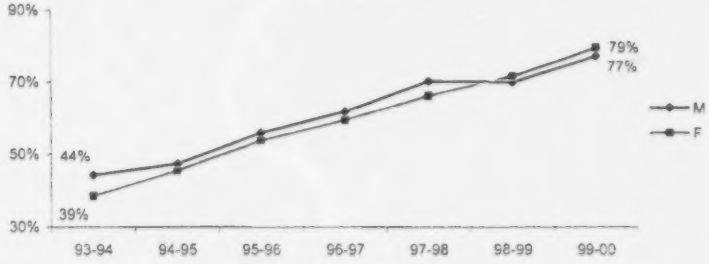
State Assessment Test Result Trends (TAAS) - Mathematics

- Grade 10

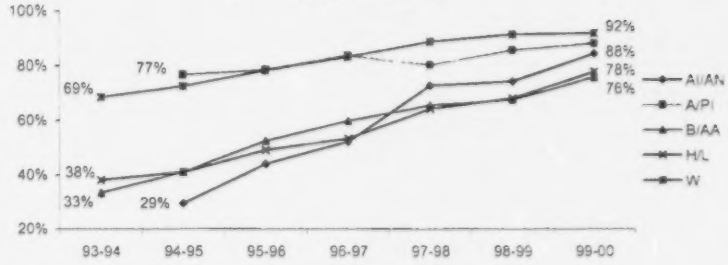
TAAS	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Pass	41%	46%	55%	61%	68%	71%	77%
Fail	59%	54%	45%	39%	32%	29%	23%
Total num of students							



% Passing by Gender



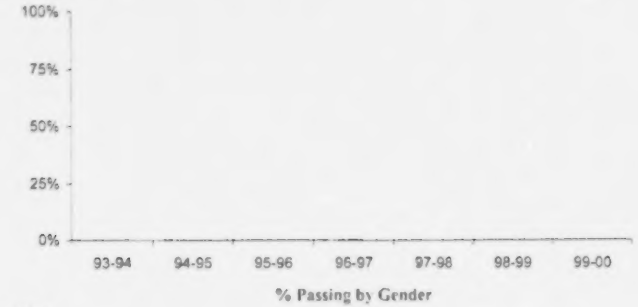
% Passing by Race/Ethnicity



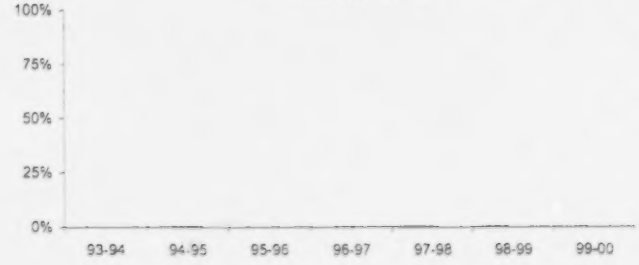
State Assessment Test Result Trends (TAAS) - Science

- Grade 4

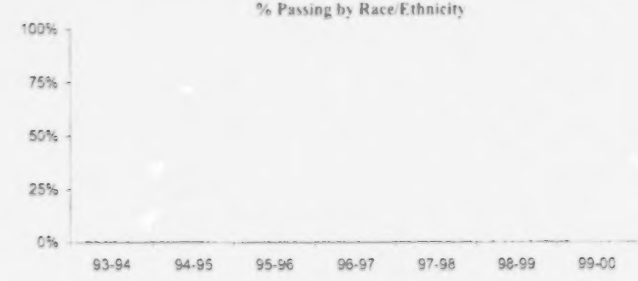
	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total num of students							



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

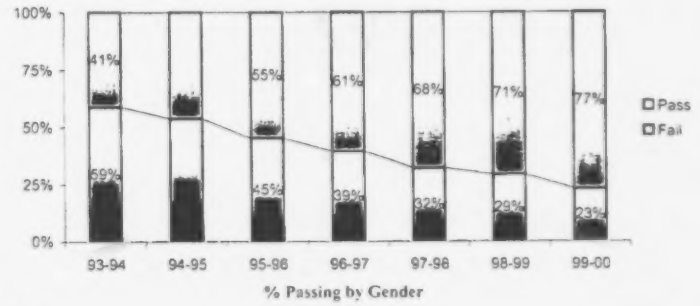
% Passing defined as Pass

Dallas USI

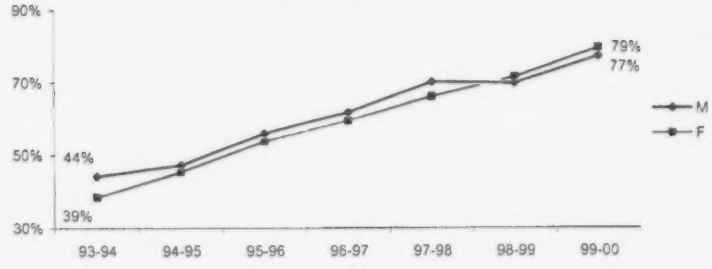
State Assessment Test Result Trends (TAAS) - Mathematics

♦ Grade 10

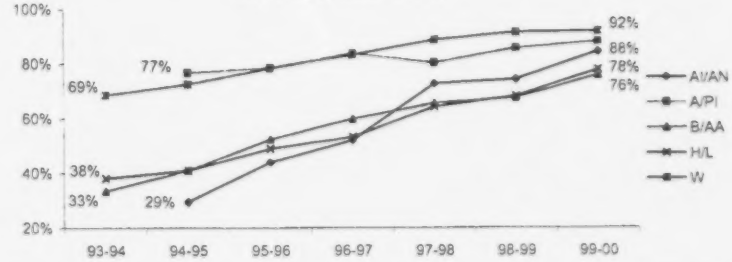
TAAS	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Pass	41%	46%	55%	61%	68%	71%	77%
Fail	59%	54%	45%	39%	32%	29%	23%
Total num of students							



% Passing by Gender



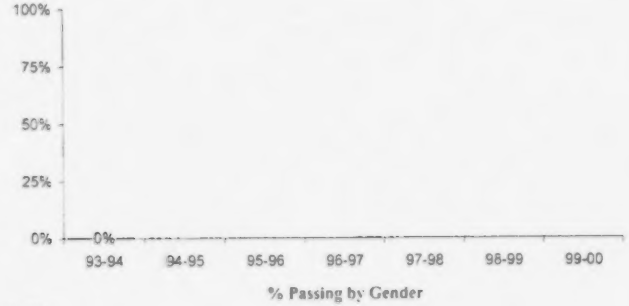
% Passing by Race/Ethnicity



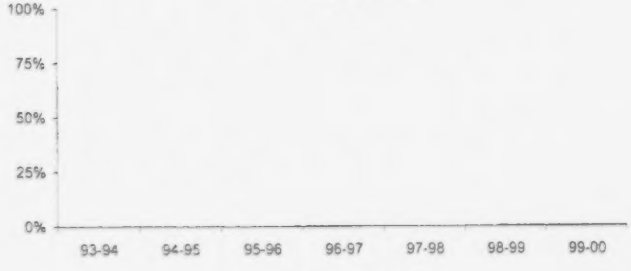
State Assessment Test Result Trends (TAAS) - Science

♦ Grade 4

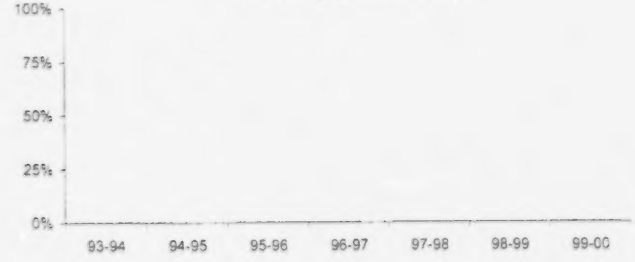
	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total num of students							



% Passing by Gender



% Passing by Race/Ethnicity



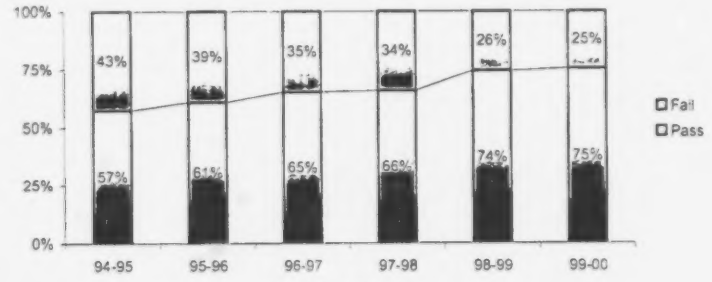
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as Pass

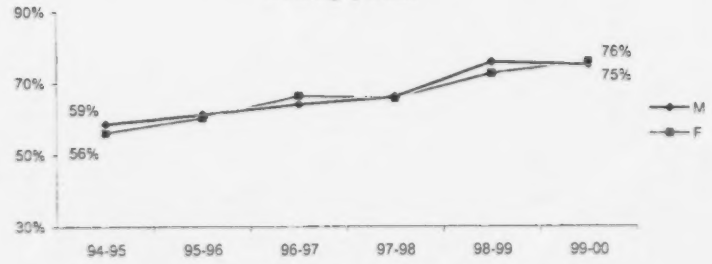
State Assessment Test Result Trends (TAAS) - Science

♦ Grade 8

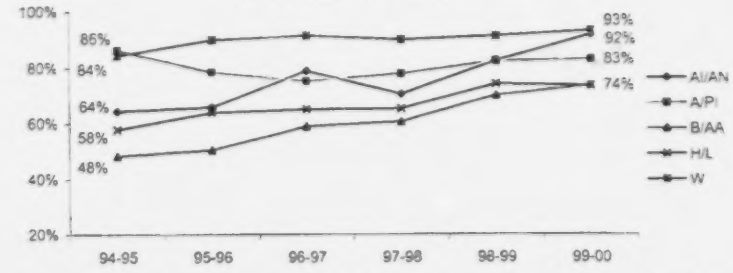
TAAS	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Pass		57%	61%	65%	66%	74%	75%
Fail		43%	39%	35%	34%	26%	25%
Total num of students							



% Passing by Gender



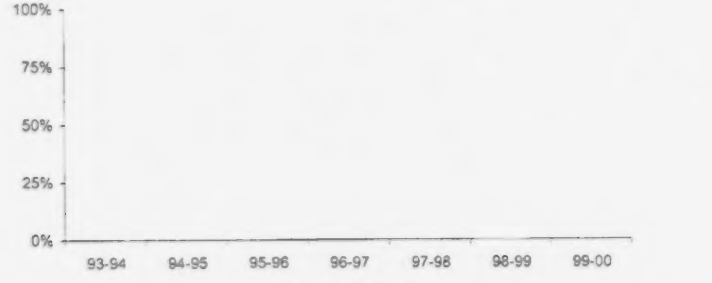
% Passing by Race/Ethnicity



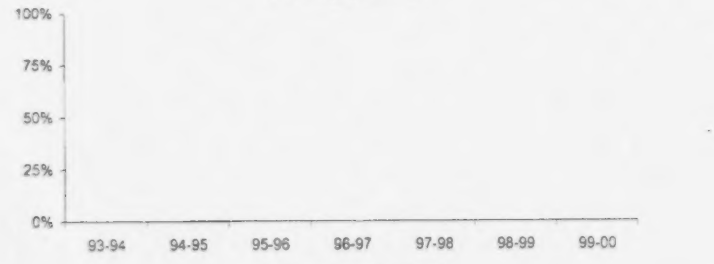
State Assessment Test Result Trends (TAAS) - Science

♦ Grade 10

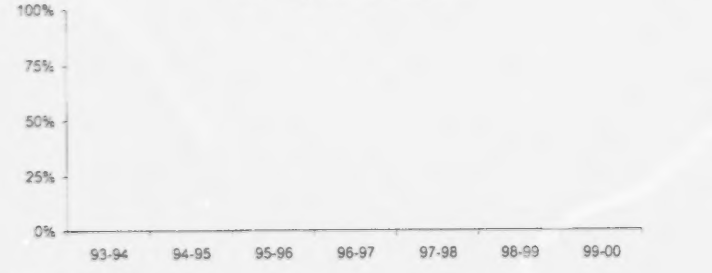
	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total num of students							



% Passing by Gender



% Passing by Race/Ethnicity



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% Passing defined as Pass

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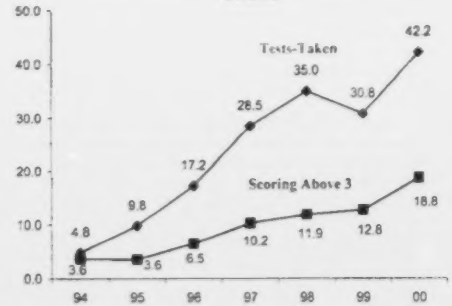
Dallas USI

AP Mathematics Test Result Trends ♦ AP Mathematics (Calculus AB, Calculus BC, & Statistics)

♦ AP Mathematics - Total Number of Tests Taken

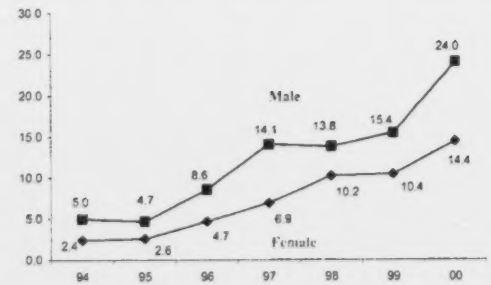
		94	95	96	97	98	99	00
Total Num of 11th & 12th		11,617	11,798	12,013	12,781	12,611	12,698	12,783
Tests Taken	Calc. AB	51	104	198	311	328	354	392
	Calc. BC	5	12	9	18	29	37	51
	Statistics	0	0	0	35	84	0	96
	Total	**56**	**116**	**207**	**364**	**441**	**391**	**539**
Num of tests taken/1,000 stu.		4.8	9.8	17.2	28.5	35.0	30.8	42.2
Scoring Above 3		42	42	78	131	150	162	240
Num of Above 3/ 1,000 students		3.6	3.6	6.5	10.2	11.9	12.8	18.8

Number of tests taken and scoring above 3 per 1,000 students



♦ AP Mathematics - Number of Students Scoring Above 3 By Gender per 1,000 Students

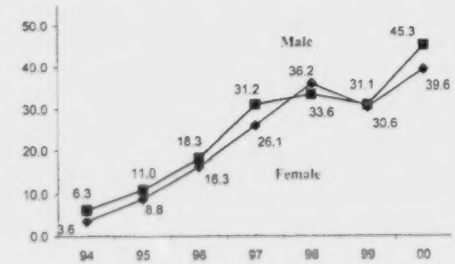
		94	95	96	97	98	99	00
Score Above 3 per 1,000	Male	5.0	4.7	8.6	14.1	13.8	15.4	24.0
	Female	2.4	2.6	4.7	6.9	10.2	10.4	14.4



♦ AP Mathematics - Number of Tests Taken By Gender Per 1,000 Students

		94	95	96	97	98	99	00
Tests Taken per 1,000	Male	6.3	11.0	18.3	31.2	33.6	31.1	45.3
	Female	3.6	8.8	16.3	26.1	36.2	30.6	39.6

Number of tests taken per 1,000 students by Gender



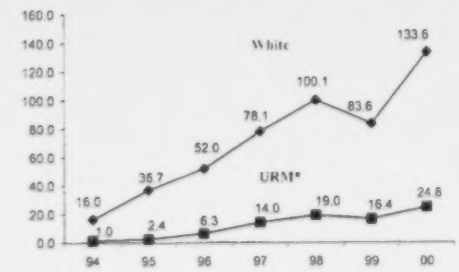
♦ AP Mathematics - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [*1]

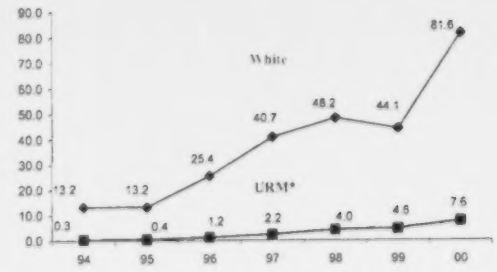
	94	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	60.0	18.9	21.7
A/PI	36.9	20.2	45.6	86.5	80.7	97.7	85.0
B/AA	0.2	0.5	1.2	1.6	3.1	4.3	7.5
H/L	0.5	0.3	1.2	3.1	4.6	4.8	7.7
W	13.2	13.2	25.4	40.7	48.2	44.1	81.6

♦ AP Mathematics - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [*1]

	94	95	96	97	98	99	00
AI/AN	0.0	0.0	43.5	0.0	60.0	56.6	43.5
A/PI	40.0	43.4	115.8	203.0	189.5	185.7	173.2
B/AA	0.9	2.2	7.0	13.8	17.9	20.1	26.8
H/L	1.4	2.6	5.0	14.3	20.0	11.6	22.5
W	16.0	36.7	52.0	78.1	100.1	83.6	133.6

Number of tests taken per 1,000 students by Race/Ethnicity





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[*1] "Other" category not presented

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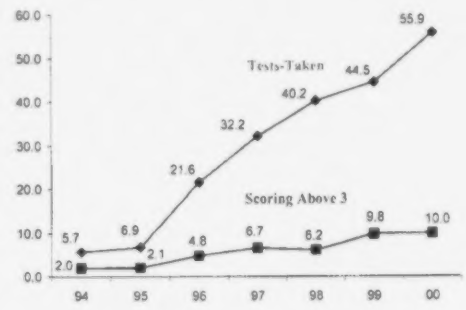
Dallas USI

AP Science Test Result Trends • **AP Science (Biology, Chemistry, Environ. Sci., Phy. B, Phy. C Mech., & Phy. C Elec.**

• **AP Science - Total Number of Tests Taken**

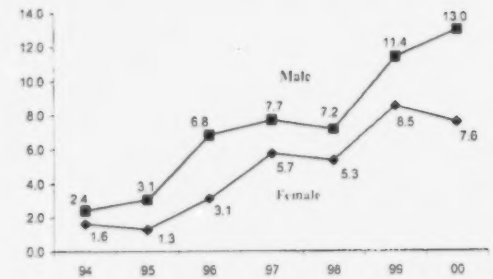
		94	95	96	97	98	99	00
Total Num of 11th & 12th		11,617	11,798	12,013	12,781	12,611	12,698	12,783
Tests Taken	Biology	24	51	147	238	244	231	332
	Chem.	29	20	59	95	109	113	103
	Enviro. Sci.	0	0	0	0	41	53	130
	Physics B	1	1	35	12	56	96	82
	Ph. C Mech.	7	7	18	47	57	60	52
	Ph. C Elec.	5	2	0	20	0	12	15
	Total	**66**	**81**	**259**	**412**	**507**	**565**	**714**
Num of tests taken/1,000 stu.		5.7	6.9	21.6	32.2	40.2	44.5	55.9
Scoring Above 3		23	25	58	85	78	125	128
Num of Above 3/ 1,000 students		2.0	2.1	4.8	6.7	6.2	9.8	10.0

Number of tests taken and scoring above 3 per 1,000 students



• **AP Science - Number of Students Scoring Above 3 By Gender per 1,000 Students**

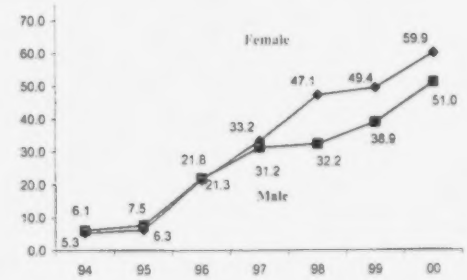
Score Above 3 per 1,000		94	95	96	97	98	99	00
	Male	2.4	3.1	6.8	7.7	7.2	11.4	13.0
	Female	1.6	1.3	3.1	5.7	5.3	8.5	7.6



• **AP Science - Number of Tests Taken By Gender Per 1,000 Students**

Tests Taken per 1,000		94	95	96	97	98	99	00
	Male	6.1	7.5	21.8	31.2	32.2	38.9	51.0
	Female	5.3	6.3	21.3	33.2	47.1	49.4	59.9

Number of tests taken per 1,000 students by Gender



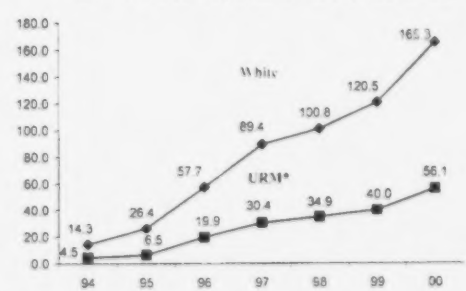
• **AP Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students**[*1]

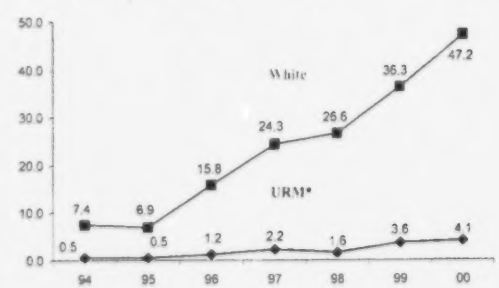
	94	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	20.0	18.9	21.7
A/PI	12.3	14.5	42.1	45.1	49.1	68.4	32.7
B/AA	0.5	0.3	0.8	1.6	1.5	3.4	4.4
H/L	0.5	0.8	1.7	3.1	1.5	3.6	3.6
W	7.4	6.9	15.8	24.3	26.6	36.3	47.2

• **AP Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students**[*1]

	94	95	96	97	98	99	00
AI/AN	24.4	0.0	21.7	38.5	100.0	75.5	65.2
A/PI	33.8	34.7	150.9	214.3	336.8	335.5	251.6
B/AA	6.1	9.0	26.0	41.1	45.8	53.2	80.0
H/L	1.6	2.8	10.9	15.5	19.8	24.3	30.8
W	14.3	26.4	57.7	89.4	100.8	120.5	165.3

Number of tests taken per 1,000 students by Race/Ethnicity





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[*1] "Other" category not presented

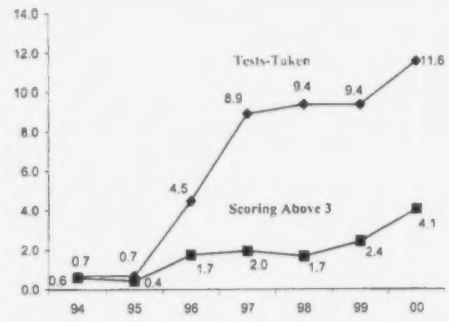
*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

AP Computer Science Test Result Trends ♦ **AP Computer Science (Computer Science A & AB)**

♦ **AP Computer Science - Total Number of Tests Taken**

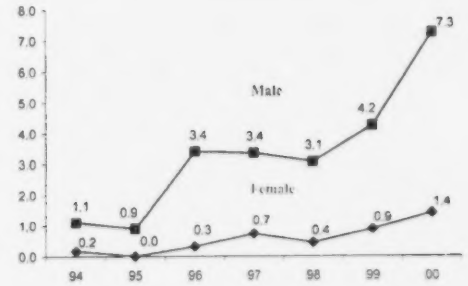
		94	95	96	97	98	99	00
Total Num of 11th & 12th students		11,617	11,798	12,013	12,781	12,611	12,698	12,783
Tests Taken	Comp. Sci A	2	8	49	98	110	113	124
	Comp. Sci. AB	6	0	5	16	8	6	24
	Total	**8**	**8**	**54**	**114**	**118**	**119**	**148**
Num of tests taken/1,000 stu.		0.7	0.7	4.5	8.9	9.4	9.4	11.6
Scoring Above 3		7	5	21	25	21	31	52
Num of Above 3/ 1,000 students		0.6	0.4	1.7	2.0	1.7	2.4	4.1

Number of tests taken and scoring above 3 per 1,000 students



♦ **AP Computer Science - Number of Students Scoring Above 3 By Gender per 1,000 Students**

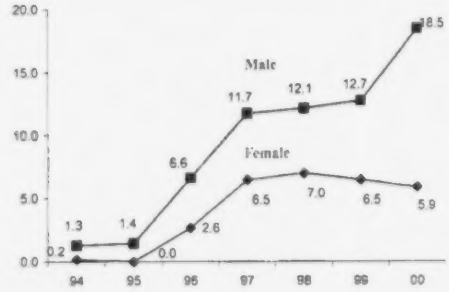
Score Above 3 per 1,000		94	95	96	97	98	99	00
	Male	1.1	0.9	3.4	3.4	3.1	4.2	7.3
	Female	0.2	0.0	0.3	0.7	0.4	0.9	1.4



♦ **AP Computer Science - Number of Tests Taken By Gender Per 1,000 Students**

Tests Taken per 1,000		94	95	96	97	98	99	00
	Male	1.3	1.4	6.6	11.7	12.1	12.7	18.5
	Female	0.2	0.0	2.6	6.5	7.0	6.5	5.9

Number of tests taken per 1,000 students by Gender



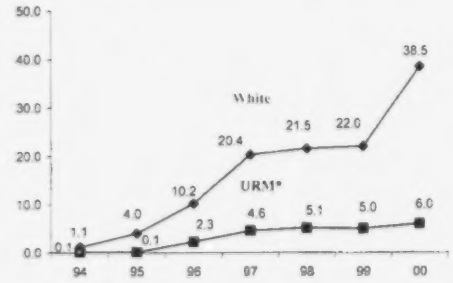
♦ **AP Computer Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students**[*1]

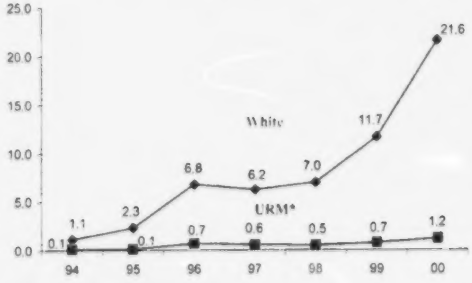
	94	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A/PI	3.1	0.0	7.0	22.6	10.5	9.8	22.9
B/AA	0.2	0.2	0.7	0.6	0.3	0.9	0.9
H/L	0.0	0.0	0.7	0.4	0.7	0.6	1.5
W	1.1	2.3	6.8	6.2	7.0	11.7	21.6

♦ **AP Computer Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students**[*1]

	94	95	96	97	98	99	00
AI/AN	0.0	0.0	21.7	0.0	20.0	0.0	0.0
A/PI	6.2	0.0	38.6	78.9	77.2	78.2	71.9
B/AA	0.2	0.2	1.9	5.1	6.2	4.5	5.2
H/L	0.0	0.0	2.7	3.8	3.5	5.6	7.0
W	1.1	4.0	10.2	20.4	21.5	22.0	38.5

Number of tests taken per 1,000 students by Race/Ethnicity





AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented

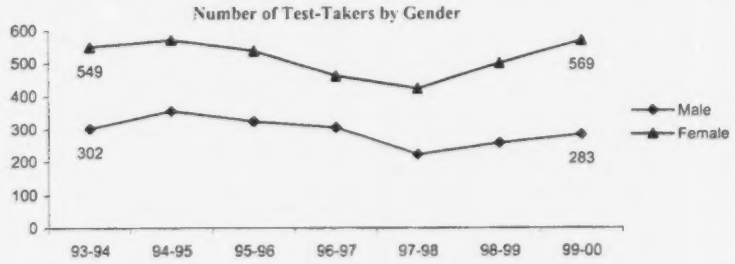
*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

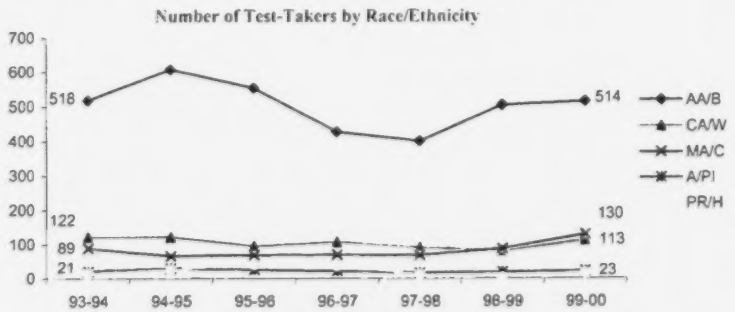
Dallas USI

ACT Test-Takers

♦ **Number of Test-Takers**

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		5,340	5,521	5,464	5,740	6,075	6,142	5,874
Test-Takers		851	927	861	766	647	761	858
Num of Test-Takers/1,000 Stu.		159	168	158	133	107	124	146
Gender	Male	302	356	324	305	223	257	283
	Female	549	571	537	461	424	500	569
Race/Ethnicity	AA/B	518	607	553	428	401	504	514
	AI/AN *1	5	6	5	5	3	1	0
	CA/W	122	122	95	108	92	81	113
	MA/C	89	66	69	70	69	88	130
	A/PI	21	30	26	22	17	19	23
	PR/H	15	27	41	38	12	3	16

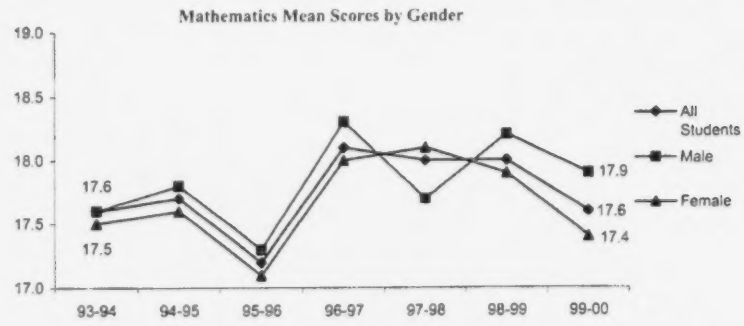


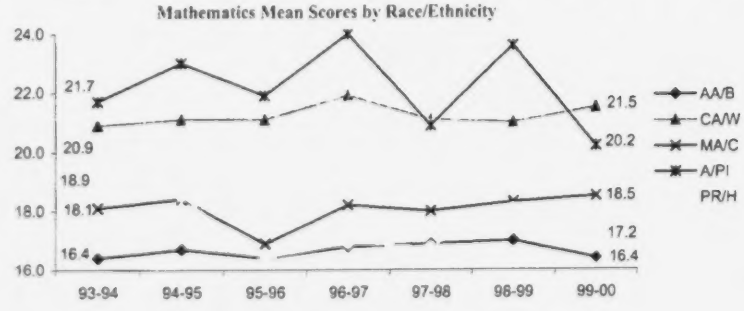


ACT Mathematics Scores

♦ **Mathematics - Mean Score Trends**

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		17.6	17.7	17.2	18.1	18.0	18.0	17.6
Gender	Male	17.6	17.8	17.3	18.3	17.7	18.2	17.9
	Female	17.5	17.6	17.1	18.0	18.1	17.9	17.4
Race/Ethnicity	AA/B	16.4	16.7	16.4	16.8	16.9	17.0	16.4
	AI/AN *2	21.4	16.5	21.8	22.2	-	-	-
	CA/W	20.9	21.1	21.1	21.9	21.1	21.0	21.5
	MA/C	18.1	18.4	16.9	18.2	18.0	18.3	18.5
	A/PI	21.7	23.0	21.9	24.0	20.9	23.6	20.2
	PR/H	18.9	18.5	16.4	16.9	16.8	18.1	17.2





AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.

*1 Number of Test Takers less than 5 not presented in graph.

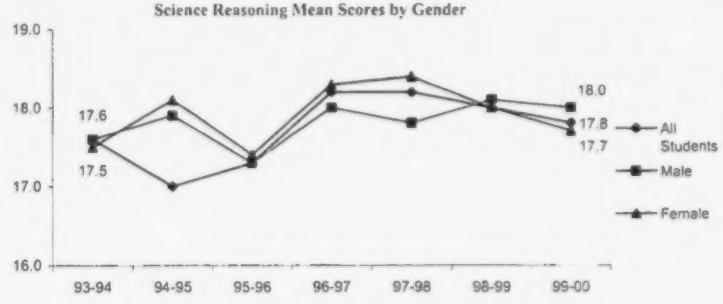
*2 Mean scores not presented for sample size less than 5

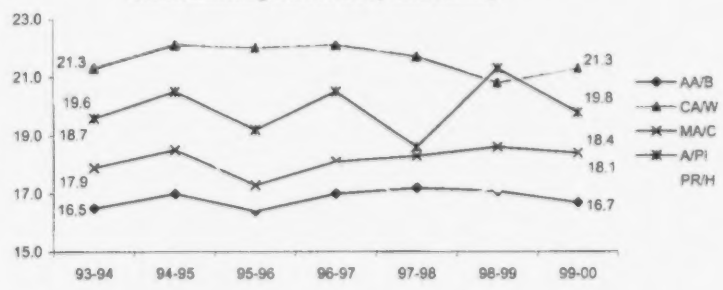
Dallas USI

ACT Science Reasoning Scores

♦ Science Reasoning - Mean Score Trends

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		17.6	17.0	17.3	18.2	18.2	18.0	17.8
Gender	Male	17.6	17.9	17.3	18.0	17.8	18.1	18.0
	Female	17.5	18.1	17.4	18.3	18.4	18.0	17.7
Race/Ethnicity	AA/B	16.5	17.0	16.4	17.0	17.2	17.1	16.7
	AI/AN *)	18.6	17.5	20.0	22.0	-	-	-
	CA/W	21.3	22.1	22.0	22.1	21.7	20.8	21.3
	MA/C	17.9	18.5	17.3	18.1	18.3	18.6	18.4
	A/PI	19.6	20.5	19.2	20.5	18.6	21.3	19.8
	PR/H	18.7	19.3	16.6	17.9	16.7	17.2	18.1





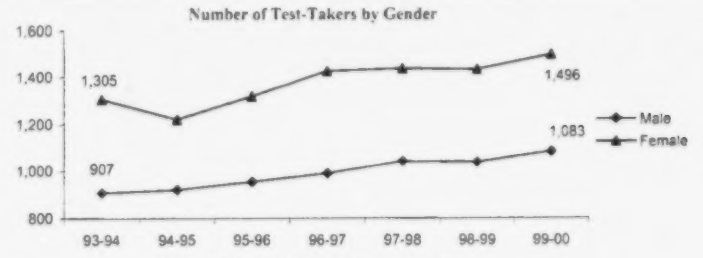
AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White
MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic

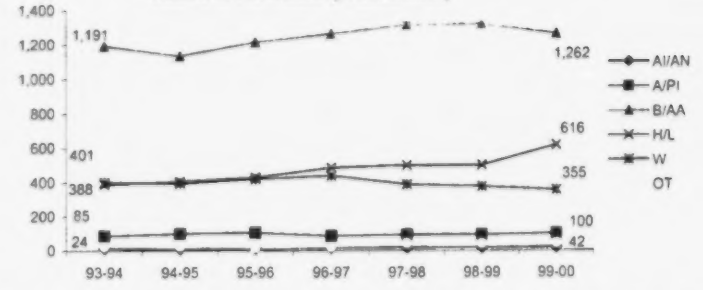
*) Mean scores not presented for sample size less than 5

SAT Test-Takers

♦ Number of Test-Takers

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		5,340	5,521	5,464	5,740	6,075	6,142	5,874
Test-Takers		2,212	2,140	2,273	2,415	2,476	2,469	2,579
Num of Test-Takers/1,000 Stu.		414	388	416	421	408	402	439
Gender	Male	907	920	955	990	1,040	1,037	1,083
	Female	1,305	1,220	1,318	1,425	1,436	1,432	1,496
Race/Ethnicity	AI/AN	13	10	13	14	17	15	19
	A/PI	85	100	106	85	93	93	100
	B/AA	1,191	1,134	1,213	1,263	1,317	1,320	1,262
	H/L	388	406	430	484	499	499	616
	W	401	394	421	439	388	375	355
	OT	24	25	16	21	42	40	42





AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

Dallas USI

SAT Mathematics Scores

♦ **Mathematics - Mean Score Trends**

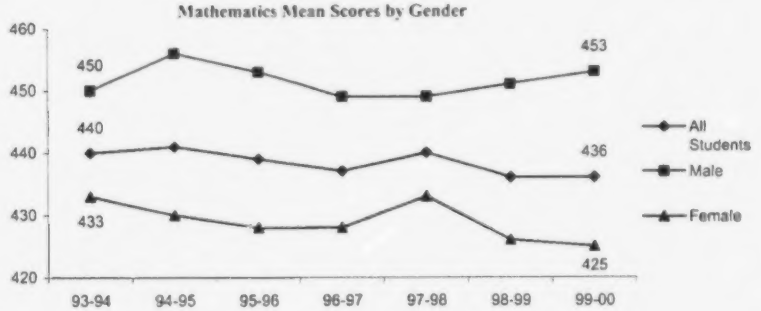
		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		440	441	439	437	440	436	436
Gender	Male	450	456	453	449	449	451	453
	Female	433	430	428	428	433	426	425
Race/Ethnicity	AI/AN	448	380	493	465	460	437	414
	A/PI	509	515	503	516	481	509	490
	B/AA	406	407	403	401	408	405	406
	H/L	442	438	439	438	444	431	437
	W	530	526	527	521	525	523	525
	OT	458	429	458	496	465	464	465

SAT Verbal Scores

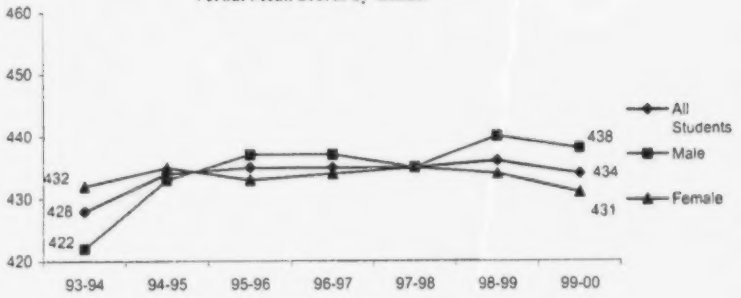
♦ **Verbal - Mean Score Trends**

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		428	434	435	435	435	436	434
Gender	Male	422	433	437	437	435	440	438
	Female	432	435	433	434	435	434	431
Race/Ethnicity	AI/AN	459	364	504	496	445	448	425
	A/PI	413	422	428	438	439	456	429
	B/AA	398	405	401	401	402	407	404
	H/L	423	428	435	435	437	430	430
	W	529	534	534	531	531	535	535
	OT	466	444	498	510	476	460	486

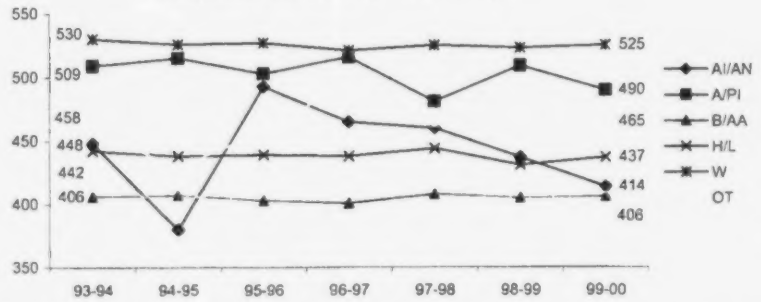
Mathematics Mean Scores by Gender



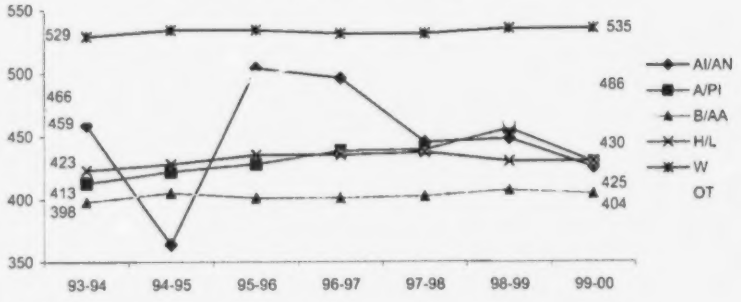
Verbal Mean Scores by Gender



Mathematics Mean Scores by Race/Ethnicity



Verbal Mean Scores by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

Dallas USI

Cohort/Scale-Up Approach

	94-95	95-96	96-97	97-98	98-99	99-00
Number of District Schools*:	*217*	*217*	*217*	*217*	217	218
USI Schools**:	29	90	209	217	218	218
% Schools:	13%	41%	96%	100%	100%	100%

*Core Data Elements 2000-2001; **K-1 2001

Italics: Data Imputed

Primary Decision Making Body

Standards Curriculum	State
Curriculum/TextBook Adoption	State
Student Assessment	School
Professional Development	School
Resources	State
Teacher Hiring	District
Teacher Contracts	District
Certification & Re-certification	State
Graduation Requirements	State
School-Based Management?	Yes

Policies Promoting Equal Access by All Students in High Quality Education

Student Tracking:
- Most low level courses were eliminated

Criteria for Entry into High Level Mathematics and Science Courses:
- Teacher recommendations, test scores on multiple measures, parental request and student interest

Availability of High Level Courses:
- No remedial courses available
- No low level courses available
- Advanced Placement (AP) Statistics offered
- Advanced Placement (AP) Calculus offered

Special Education and Bilingual Students:
- Limited Proficiency English (LEP) students all take math computation part of Iowa Test of Basic Skills (ITBS)
- Separate math & science for LEP & Special Ed students
- All students tested with Texas Assessment of Academic Skills (TAAS)

Others:
- AP Incentives- $300 equipment grant to schools that provide college AP courses, and $100 per student scoring 3 or better

Policies Impacting the Enrollment of Students in Challenging Math and Science Courses

Attendance:
- District/ State accountability systems provide incentives to schools

Guidance:
- Counselors available to all students

Student Support Systems:
- Student Support Team to assist at risk students
- Saturday mathematics tutoring
- Algebra enrichment/summer camp

Promotion:
- A grade of 70 or above needed on TAAS in grade 6 & 8 for promotion.

Others:
- $150 stipend to teachers for teaching AP course

Policies Relevant to Curricula

Framework:
- Texas Essential Knowledge and Skills (TEKS)

Curricula:

Curricula Materials:
- DPS Core Curriculum
- Full Option Science System (FOSS)
- Everyday Mathematics
- Great Explorations in Math and Science (GEMS)
- Science Education for Public Understanding (SEPUP) (for middle and high school)

New Courses Added as a Result of USI:

Instructional Time:
- Decided by schools based on student's needs

Standards-based Curriculum and Instruction

Standards Adopted:
- National Council of Teachers of Mathematics (NCTM) Standards
- Texas State Standards (TEKS)
- National Research Council (NRC) Standards

Primary Instructional Strategies:
- Hands-on learning
- Inquiry based classroom activities

% of Students Experiencing Standards-based Mathematics Curricula:	E: 33% M: 80% HS: 0%
% of Students Experiencing Standards-based Science Curricula:	E: 33% M: 80% HS: 40%

E: Elementary School M: Middle School H: High School

Policies Relevant to Teacher Qualifications

Certification:
- State exams must be passed
- Alternative Certification program to attract non-traditional teachers
- District hires some uncertified teachers. Must be certified in 2 yrs. In reality, teachers remain uncertified and employed.
- $1,000 stipend each year for teachers teaching in their certification subject

Requirement & Hiring Practices:
- Hiring incentives: stipend, advanced study
- Recruitment and Retention Plan

Professional Advancement & Leadership Training:
- Campus instructional leaders and math & science content cadres are trained

Contract Requirements:
- Teacher evaluation system addresses student outcomes

Others:
- Policies designed to recognize and reward excellence in mathematics and science teaching

Dallas USI

Professional Development Policies and Practices

Time Required or Supported:
- 35 hours required for experienced teachers; 70 hrs for new teachers
- Teachers may take professional leave to attend training, conferences, etc. without loss of pay
- Total quality management training required of all administrators/ principals institute established to promote SB instruction.

Campus Instructional teams trained to use data to guide instruction.

Financial Resources Provided:
- Teachers subsidized $450 for summer training
- Funds distributed to local superintendents, not Training and Staff Development Department

Alignment to Student Standards:
- Only sessions on SB programs are allowed

Measurement of Impact:
- Performance based assessment
- Classroom observation by Research and Evaluation staff, USI Service Team members and USI staff

Other:
- Campus instructional leadership conducts staff development.

Type and Amount Received by Average Math/Science Teacher:
- Standards-based content training

Evaluation Instruments:
- Classroom observation by Math/Science/Technology Specialists

Professional Development Alignment to Content Standards Measures:
- YES

Teacher's Instructional Practices Evaluation:
- Surveys
- Classroom observation

Impact on Student Achievement:
- Local, state and national assessments

Policies Relevant to Standards-based Assessments

Extent to Which Assessments are Aligned to District Standards and Curriculums:
- 100%

Methods stakeholders are informed of goals, objectives and accomplishments of assessment program:
- Newsletters
- Fliers
- Family Math/Science Night at individual schools
- Dallas Morning News
- KERA- public TV station
- Professional development offered to parents
- Report Cards (AEIS) published on web

USI Leadership, Governance, and Management

Superintendent:
- Dr. James Hughey Superintendent as of 1997-98
- In search for a new general superintendent
- Six superintendents since 1996

USI Office:
- USI project director is an Assistant Superintendent, Sally Dudley, Executive Director since 6/99
- USI specialists have specifically defined roles

Community Key Personnel:
- Mr. Hollis Brashear, President of Board of Education as of 12/97

Teacher Leaders:
- Math and Science Lead Teachers at every school serve as team leaders, network with USI specialists and teachers, model lessons, and share strategies

Partnerships

Other Key Initiatives:
- Eisenhower Funds
- Title I
- Reading Initiative
- Eisenhower Funds
- Title I
- Perkins Technology Funds
- State Technology Funds
- Edison Schools

Dallas USI

Community Stakeholders:	• Council for Basic Education
	• Philip Exeter Foundation
	• Eisenhower Collaborative
	• Dallas Alliance of Minority Engineers
	• O'Donnell Foundation
Higher Education:	• University of Texas at Dallas
	• Southern Methodist University
	• University of North Texas
	• University of Dallas
	• Texas A & M University
	• University of Texas at Arlington
	• Paul Quinn College
	• Texas A & M Baylor Dental College
	• Key Center for Science Education
	• University of Texas at Austin
	• Dallas Baptist University
	• Dallas Baylor Dental School
	• University of Texas Southwestern Medical Center at Dallas
	• University of Perth, Australia
	• Dallas County Community College
Business and Industry:	• Texas Instruments
	• IBM
	• Exxon Foundation
	• TU Electric
	• Mobil Oil
	• Exxon
	• Figure This Campaign
Other Partnerships:	• The Science Place
	• Dallas Zoo
	• Dallas Museum of Natural History
	• Dallas Nature Center
	• Dallas Arboretum
	• Dallas World Aquarium

Policy Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	• Policies were based on state policies at the time. • Two year algebra remedial course • Two year mathematics and science requirement
1994-95	• Requirement for mathematics and science every year • School Improvement Plans include mathematics and science
1995-96	• No changes reported
1996-97	• $1,000 stipend for certified mathematics and science teachers • Texas Essential Knowledge and Skills (TEKS) policy
1997-98	• Development of USI/NSF Mathematics/Science Institutionalization Plan • Formation of Campus Instructional Leadership Teams (CLIT)
1998-99	• Revised district curriculum to match state TEKS
1999-00	• New State Graduation requirements established for class of 2005; 4 yrs. of science and math

Curriculum and Instruction Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	• Scarce use of high quality curricula • Skills based instruction • Teacher as deliverer of knowledge • Emphasis on covering textbook
1994-95	• Design/develop curriculum on CD • Mathematics, Science, and Technology Compendium established
1995-96	• Development of curriculum on CD • Move to student-centered instruction
1996-97	• Use of USI mathematics and science lead teachers in conjunction with USI Service Team Specialists to implement standards-based programs at the campus level • Core curriculum CD- resources, alignment, scope and sequence
1997-98	• Mathematics and science curriculum revised to align with TEKS • Curriculum Management System (CMS) implemented
1998-99	• Revised CMS to match new state site-based framework • Began development of benchmarks and profiles
1999-00	• Developed Dallas-based standards to complement state TEKS.

Professional Development Policy and Program Changes to Support Teachers During USI Implementation

School Year	Policy Implemented
Before USI	•Centrally developed •Centrally delivered •Lack of focus •Hodge-podge of mathematics and science
1994-95	•TQM training for all administrators
1995-96	•Summer institute- training modules in pedagogy and manipulative-based instruction
1996-97	•Professional development focused on standards-based program implementation in the classroom •FOSS and SEPUP training •Family Math and Science •Graphing Calculator training
1997-98	•Mathematics/Science Plan for USI implementation •Summer Enhancement Institute- training on standards-based programs •Campus Instructional Leadership Team training •USI Mathematics/Science Teacher Academy-content training
1998-99	•On-going professional development every six weeks •G-6 teachers- Connected Math Project •FOSS, Everyday Math, Chem Com and SEPUP training
1999-00	•Development of Principals Institute to promote standards-based instruction. •Training of campus instructional leaders and science & math content cadres at each campus stated.

Standards-based Assessment System Changes During USI Implementation

School Year	Policy Implemented
Before USI	
1994-95	•Development of performance assessments at local level
1995-96	•Development of performance assessments at local level
1996-97	•Science Performance Test for 5th grade
1997-98	•No changes reported
1998-99	•Changed from ITBS to Stanford 9 •California Systemic Initiatives Assessment Collaborative (CSIAC) Assessment given to 12,000 5th Graders
1999-00	District assessments in middle and high school aligned to curriculum content in mathematics and science.

School District Progress Report

March 2002

Detroit

Urban School Key Indicators of Science and Mathematics Education: 2001

Detroit USI

Project Information

USI Project Title : Detroit USI
Cohort: 93 (Sept. 94 - Aug. 00)
USI Web Site: www.detroit.k12.mi.us

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• Mailing Address

Detroit Public Schools
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Detroit, MI 48202

• USI Schools Math & Sci. Teachers and Students

99-00	Schools	Teachers	Students
K-G5 (Elementary)	174	.	87,042
G6-8 (Middle)	66	.	32,557
G9-12 (High)	28	.	35,062
Total	268	.	154,661

( ) Data Missing

Project Summary

The Detroit Urban Systemic Initiative (DUSI) is a district-wide, 5-year effort to bring about major education reform in mathematics and science in Detroit Public Schools. DUSI is designed to impact all 178,828 Detroit Public Schools students, including students with special needs. Detroit will implement strategies aimed at changing the cognitive patterns that impede student achievement in mathematics and science.

Professional development will begin with awareness, and progress to raising expectations, student achievement, developing staff skills and knowledge, building confidence, obtaining and upgrading credentials. District-wide policy changes will enable equal access, flexibility and latitude for systemic reform and targeting resources.
Organizational changes include staffing assignment, designating K-12 constellations (high school, middle schools, and elementary feeder schools) as learning communities in which staff plan, train, and make articulation decisions; increasing the number of specialists and certified minority male mathematics and science teachers; and making state-of-the art facilities and equipment accessible for all students.

Delivery system changes included distance learning; professional practitioners as teachers; learning logs; constructivism, problem-based and hands-on instruction; real-world applications and educational settings outside the classroom; implementation of improved K-12 core curriculum; community collaborations and partnerships; parent programs; career counseling; and adoption of exemplary programs to meet gaps in enhancement and intervention programs. Teachers of mathematics and science will receive professional development and training.

Changes in assessment practices include performance-based assessment with student portfolios that follow students and new standardized norm-referenced tests. The 5-year evaluation design developed by Wayne State University will be significant in the decision-making process.

Project Goals

- Provide the mathematics and science fundamentals to empower all students to participate fully in a technological society.
- Improve the mathematics and science literacy of Detroit Public Schools students.
- Enable a significantly greater number of Detroit students to pursue careers in mathematics, science, engineering, and technology.
- Facilitate a district-wide climate for systemic change that continually assures adoption and maintenance of strategies and programs that enable all students equal access.

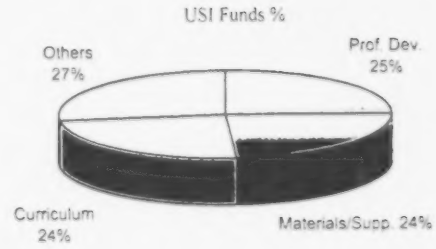
Selected School Indicators (District Average)

	94-95	99-00	Change
%Special Ed.	.	.	
%LEP	2.9%	.	
%FRL	61.1%	.	
%Daily Ave. Atten.	93.1%	.	
%Average Retained	.	.	
%Drop-Out	8.3%	.	
%Mobility	.	.	
Per Pupil Cost ($)	.	.	
Num of Students Per Computer	.	.	
% Classrooms Internet Access	.	.	
Average Class Size	.	.	

PP: Percentage Points

District and USI Fund Utilization (SY 1999-00)

	District	USI
Prof. Dev.	25%	25%
Materials/ Supp.	15%	24%
Curriculum	15%	24%
Others	45%	27%
Total	100%	100%



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Student Demographics (SY 1999-00)

District Total:	167,186	
USI Schools:	154,661	93%

♦ Race/Ethnicity

	94-95	99-00	%	Change
Ame. Ind./Ala. Nat.	507	362	0.2%	-28.6%
Asian/P. Islander	1,576	1,578	0.9%	+0.1%
Black	154,938	152,498	91.2%	-1.6%
Hispanic	4,555	6,008	3.6%	+31.9%
White	10,784	6,740	4.0%	-37.5%
Other	0	0	0.0%	.
Total	172,360	167,186		-3.0%
URM Total	160,000	158,868	95.0%	-0.7%

URM: Underrepresented Minority students.

* Data not available for 93-94

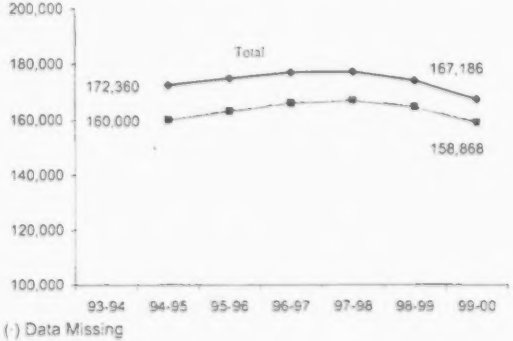
♦ Gender

Male	87,048	84,623	50.6%	-2.8%
Female	85,312	82,563	49.4%	-3.2%

♦ Crade

K-G5	86,068	87,042	52.1%	+1.1%
G6-8	34,463	32,557	19.5%	-5.5%
G9-12	40,721	35,062	21.0%	-13.9%
Ungraded	11,108	12,525	7.5%	+12.8%

♦ District-Wide Student Demographic Trends



(·) Data Missing

12th Grade Graduates

	93-94	99-00	Change
Total 12th Grade	5,612	5,258	-6%
Earned a Diploma	·	·	·
% Earned Diploma	·	·	·

% Earned Diploma

College Entrance

	93-94	99-00	Change
2 Yr College	·	·	
4 Yr College	·	·	
Other Post-Secon.	·	·	
Total C. E.	·	·	
% C. E./Earned Dip.	·	·	

% College Entrance

High School Graduation Requirements SY 99-00

- ♦ Mathematics
  - 3 years
- ♦ Science
  - 3 years

Math and Science Teachers & Certification

♦ Mathematics (G6-12)

		97-98	99-00	Change
G6-8	Teachers	·	·	
	Certified	·	·	
	% Cert.	·	·	
G9-12	Teachers	·	·	
	Certified	·	·	
	% Cert.	·	·	
Total	Teachers	·	·	
	Certified	·	·	
	% Cert.	·	·	

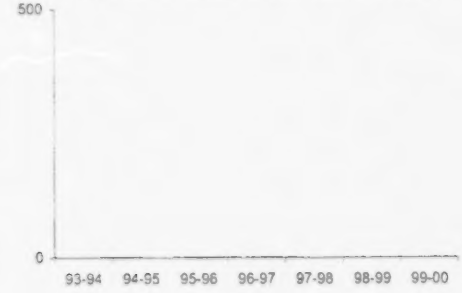
♦ Science (G6-12)

		97-98	99-00	Change
G6-8	Teachers	·	·	
	Certified	·	·	
	% Cert.	·	·	
G9-12	Teachers	·	·	
	Certified	·	·	
	% Cert.	·	·	
Total	Teachers	·	·	
	Certified	·	·	
	% Cert.	·	·	

♦ Math and Science (K-G5)

		97-98	99-00	Change
K-G5	Teachers	·	·	

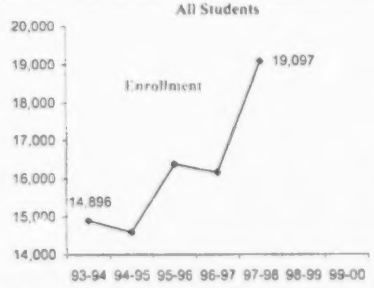
Total Number of Math and Sci. Teachers (K-G12)

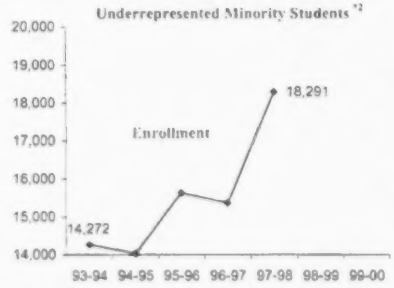


Mathematics and Science Enrollment & Completion Trends/ All vs. URM

G 9-12 Mathematics Gate-Keeping Courses (Algebra II, Geo., and Calculus)

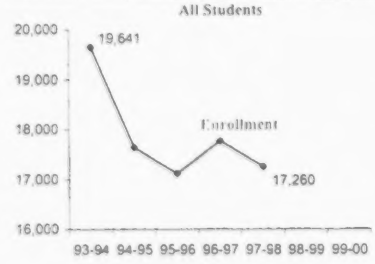
		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		.	40,721	39,573	38,819	38,405	37,810	35,062
All Students	Enrollment	14,896	14,595	16,377	16,163	19,097	.	.
	Completion [*1]	.	.	.	.	.	.	.
	% Enroll/ G9-12	.	36%	41%	42%	50%	.	.
URM [*2]	Enrollment	14,272	14,031	15,629	15,362	18,291	.	.
	Completion [*1]	.	.	.	.	.	.	.
	% Enroll/ G9-12	.	34%	39%	40%	48%	.	.

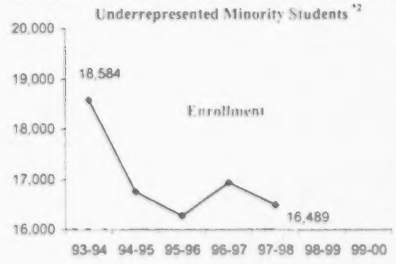




G 9-12 Science Gate-Keeping Courses (Biology 1, Chem. 1, and Physics 1)

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population			40,721	39,573	38,819	38,405	37,810	35,062
All Students	Enrollment	19,641	17,638	17,114	17,767	17,260	.	.
	Completion [*1]	.	.	.	.	.	.	.
	% Enroll/ G9-12	.	43%	43%	46%	45%	.	.
URM [*2]	Enrollment	18,584	16,752	16,272	16,940	16,489	.	.
	Completion [*1]	.	.	.	.	.	.	.
	% Enroll/ G9-12	.	43%	43%	.	45%	.	.



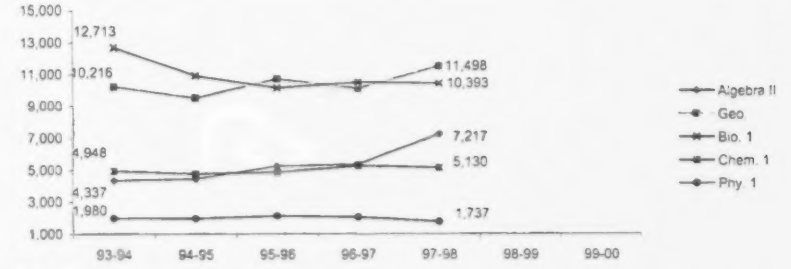


[*1] Successful completion: grade 'D' or above. (.) Data Missing
[*2] Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Mathematics and Science Enrollment & Completion Trends By Subject

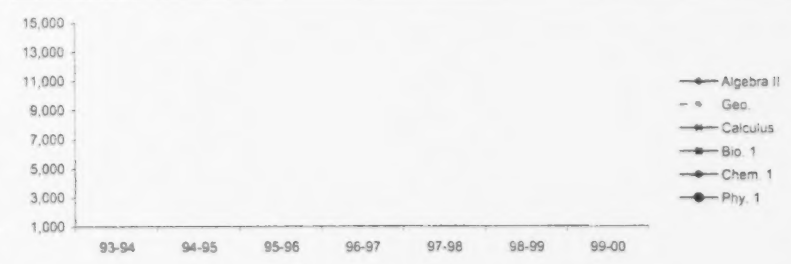
G 9-12 Course Enrollment (All Students)

	Algebra II	Geo.	Calculus [*3]	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
93-94	4,337	10,216	343	14,896	12,713	4,948	1,980	19,641
94-95	4,441	9,500	654	14,595	10,927	4,759	1,952	17,638
95-96	5,247	10,703	427	16,377	10,131	4,865	2,118	17,114
96-97	5,346	10,103	714	16,163	10,477	5,270	2,020	17,767
97-98	7,217 [*4]	11,498	382	19,097	10,393	5,130	1,737	17,260
98-99	.	.	.	.	.	.	.	.
99-00	.	.	.	.	.	.	.	.



G 9-12 Course Completion [*1] (All Students)

	Algebra II	Geo.	Calculus	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
93-94	.	.	.	.	.	.	.	.
94-95	.	.	.	.	.	.	.	.
95-96	.	.	.	.	.	.	.	.
96-97	.	.	.	.	.	.	.	.
97-98	.	.	.	.	.	.	.	.
98-99	.	.	.	.	.	.	.	.
99-00	.	.	.	.	.	.	.	.



[*3] Calculus not represented on graph. (Completion not represented on graphs.)
[*4] Imputed SY 97-98

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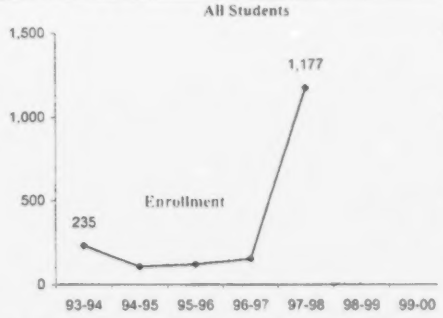
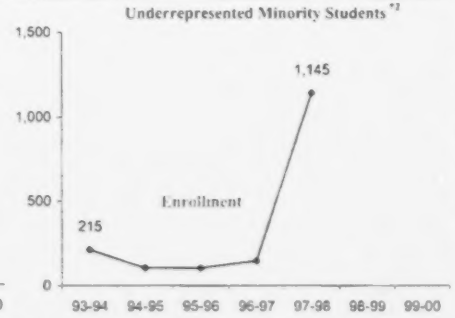
Algebra I or Above in 8th Grade Enrollment & Completion Trends/ All vs. URM

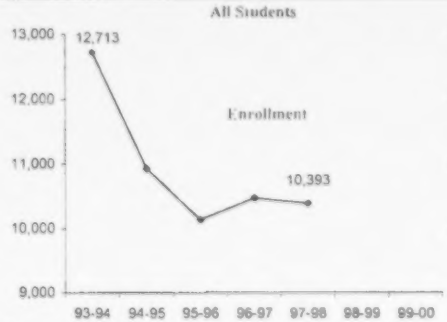
		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 8 Population		.	10,978	10,679	.	10,478	.	.
All Students	Enrollment	235	109	122	155	1,177	.	.
	Completion *1	.	.	.	.	.	.	.
	% Enroll/ G8	.	1%	1%	.	11%	.	.
URM *2	Enrollment	215	107	105	150	1,145	.	.
	Completion *1	.	.	.	.	.	.	.
	% Enroll/ G8	.	1%	1%	.	12%	.	.

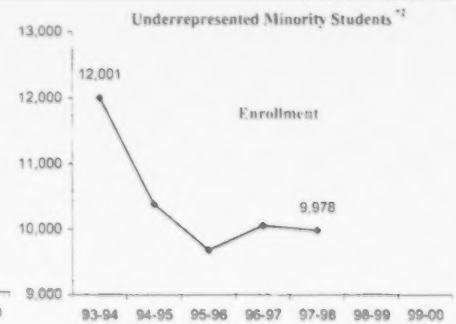




Biology Enrollment & Completion Trends/ All vs. URM

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students	Enrollment	12,713	10,927	10,131	10,477	10,393	.	.
	Completion *1	.	.	.	.	.	.	.
URM *2	Enrollment	12,001	10,379	9,680	10,051	9,978	.	.
	Completion *1	.	.	.	.	.	.	.





*1 Successful completion: grade 'D' or above.

*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

(.) Data Missing

Professional Development Participation of Teachers Teaching Mathematics and/or Science

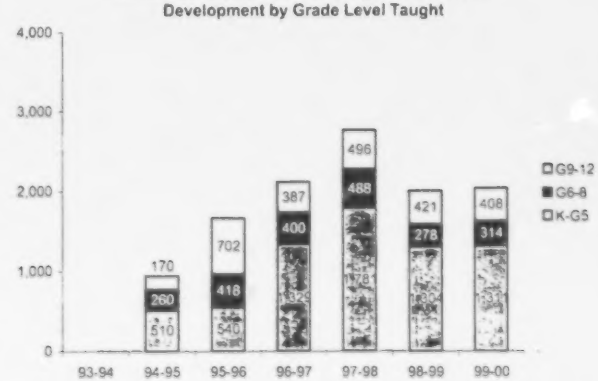
Total Number Teachers by Subject (G6-12)

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Mathematics	.	.	.	.	.	.	.
Science	.	.	.	.	.	.	.

Total Number of Teachers Participating in PD by Grade Level

Teachers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total K-G5	.	.	.	.	.	.	.
# K-G5 Participated	.	510	540	1,329	1,781	1,304	1,311
% K-G5 Participated	.	.	.	.	.	.	.
Total G6-8	.	.	.	.	.	.	.
# G6-8 Participated	.	260	418	400	488	278	314
% G6-8 Participated	.	.	.	.	.	.	.
Total G9-12	.	.	.	.	.	.	.
# G9-12 Participated	.	170	702	387	496	421	408
% G9-12 Participated	.	.	.	.	.	.	.

Number of Teachers Participating in Professional Development by Grade Level Taught



Number of Teachers by Duration of Professional Development

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
1-59 Hours	.	940	1,208	1,514	1,720	1,082	1,020
60-119 Hours	.	0	452	602	995	851	821
120-200 Hours	.	0	0	0	29	67	167
More than 200 Hours	.	0	0	0	21	3	0

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District Assessment Test Administered

♦ Mathematics

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	MAT	MAT	MAT	MAT	MAT	MAT	MAT
Scoring	PL	PL	PL	PL	PL	PL	PL
Grade	1-10	1-10	1-10	1-10	1-10	1-10	1-10
Type	NRT	NRT	NRT	NRT	NRT	NRT, CRT	NRT, CRT

♦ Science

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	MAT	MAT	MAT	MAT	MAT	MAT	MAT
Scoring	PL	PL	PL	PL	PL	PL	PL
Grade	1-10	1-10	1-10	1-10	1-10	1-10	1-10
Type	NRT	NRT	NRT	NRT	NRT	NRT	NRT

State Assessment Test Administered

♦ Mathematics

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	MEAP	MEAP	MEAP	MEAP	MEAP	MEAP	MEAP
Scoring	PL	PL	PL	PL	PL	PL	PL
Grade	4,5,7,8	4,5,7,8	4,5,7,8	4,5,7,8	4,5,7,8	4,5,7,8	4,7
Type	CRT, PL	CRT, PL	CRT, PL	CRT, PL	CRT, PL	CRT, PL	CRT, PL

♦ Science

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	MEAP	MEAP	MEAP	MEAP	MEAP	MEAP	MEAP
Scoring	PL	PL	PL	PL	PL	PL	PL
Grade	4,5,7,8	4,5,7,8	4,5,7,8	4,5,7,8	4,5,7,8	4,5,7,8	5, 8
Type	CRT, PL	CRT, PL	CRT, PL	CRT, PL	CRT, PL	CRT, PL	CRT, PL

* MEAP: Michigan Educational Assessment Program, MAT: Metropolitan Achievement Test

PC: Percentile SN: Stanine PL: Performance Level

PF: Pass/Fail SS: Scaled Score OT: Other

NRT: Norm-Referenced Test CRT: Criterion-Referenced Test

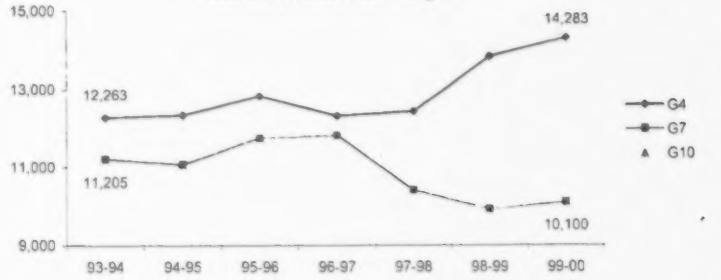
(.) Data Missing

State Assessment Test-Taker Trends - (MEAP)

♦ Mathematics

# of Test-takers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4	12,263	12,330	12,826	12,306	12,425	13,815	14,283
Grade 7	11,205	11,058	11,738	11,811	10,403	9,911	10,100
Grade 10							

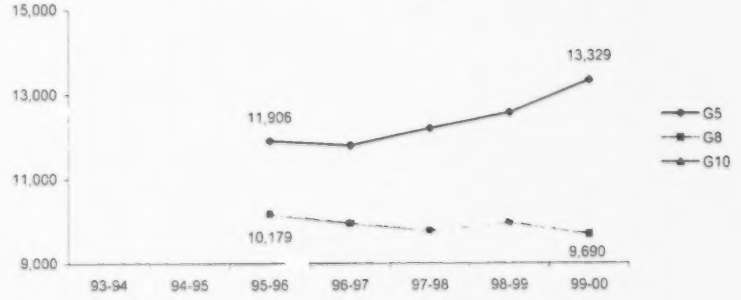
Total number of students taking test



♦ Science

# of Test-takers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Grade 5			11,906	11,797	12,200	12,567	13,329
Grade 8			10,179	9,953	9,773	9,967	9,690
Grade 10							

Total number of students taking test



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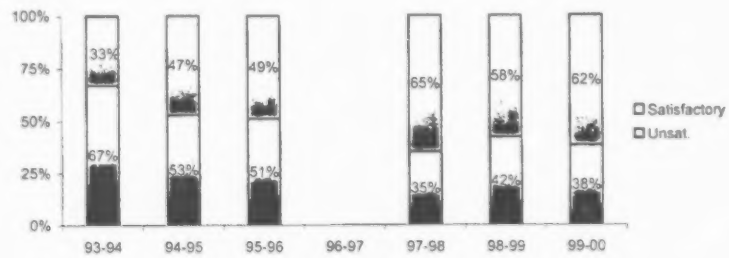
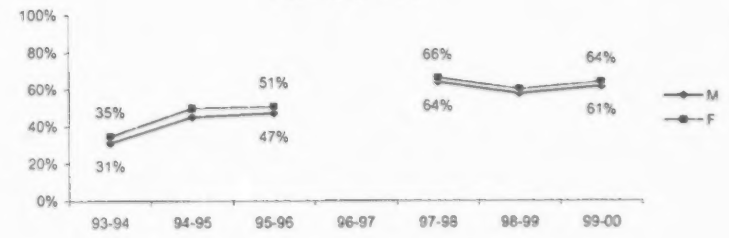
State Assessment Test-Taker Trends - (MEAP) Mathematics

♦ **Grade 4**

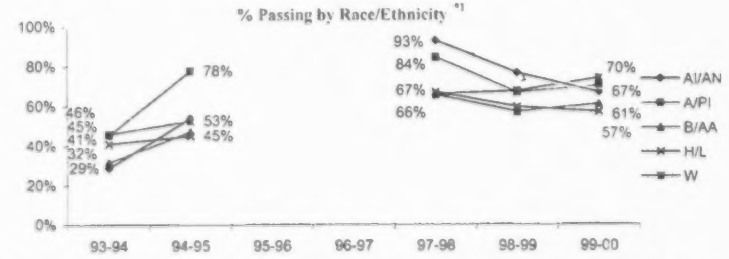
Proficiency	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Satisfactory	33%	47%	49%	.	65%	58%	62%
Unsat.	67%	53%	51%	.	35%	42%	38%
Total num of students	12,263	12,330	12,826	12,306	12,425	13,815	14,283



% Passing by Gender



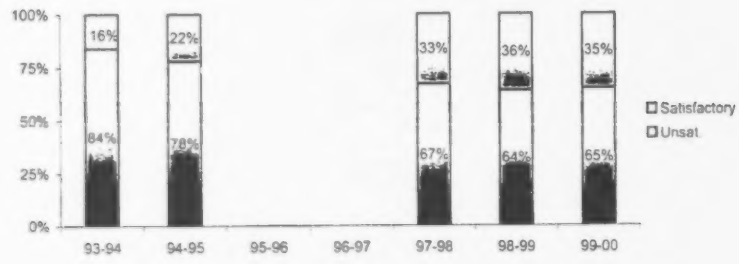
% Passing by Race/Ethnicity [*1]



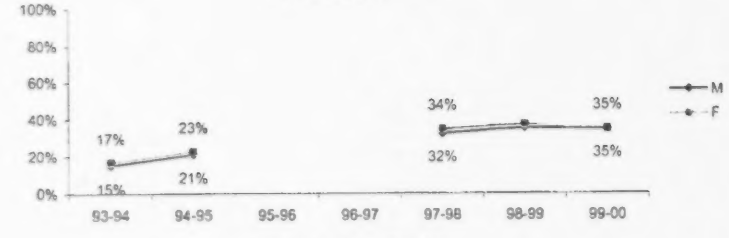
State Assessment Test-Taker Trends - (MEAP) Mathematics

♦ **Grade 7**

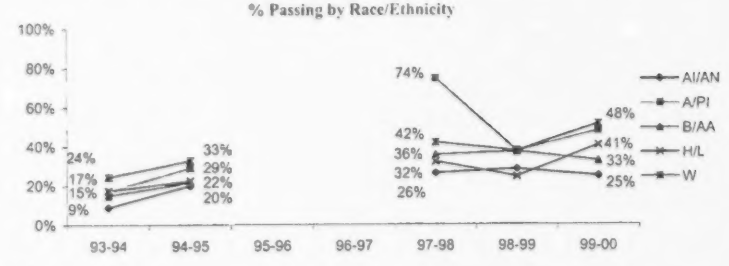
Proficiency	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Satisfactory	16%	22%	.	.	33%	36%	35%
Unsat.	84%	78%	.	.	67%	64%	65%
Total num of students	11,205	11,058	11,738	11,811	10,403	9,911	10,100



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as "Satisfactory/ Proficient" (.) Data Missing

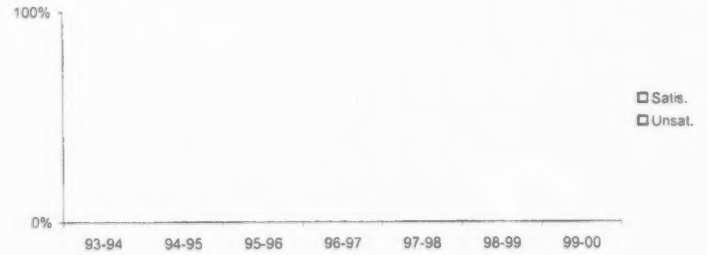
[*1] "Other" category not presented, "Other" includes 8,145 of 12,425 total test-takers in SY 97-98

Detroit USI

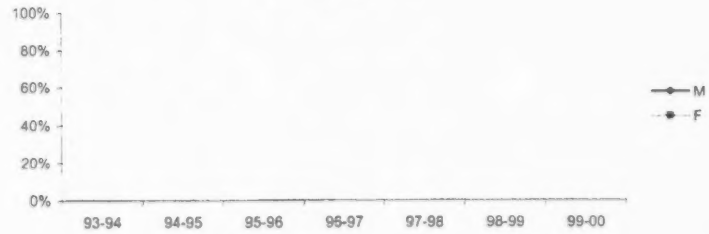
State Assessment Test-Taker Trends - (MEAP) Mathematics

♦ Grade 10

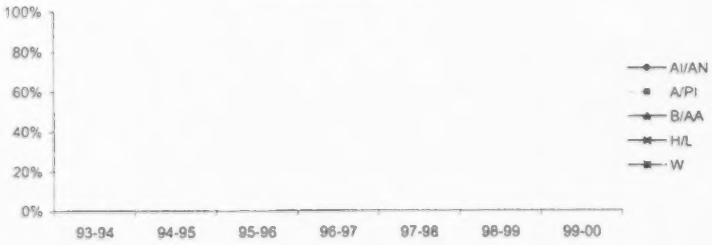
Proficiency	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Satisfactory							
Unsat.							
Total num of students							



% Passing by Gender



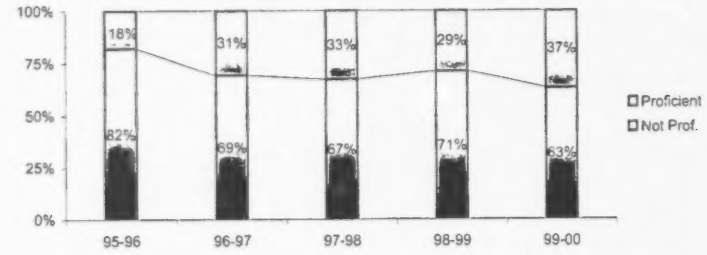
% Passing by Race/Ethnicity



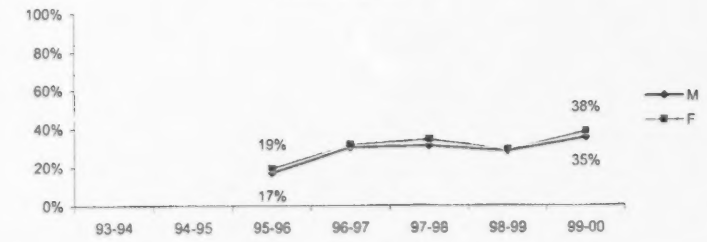
State Assessment Test-Taker Trends - (MEAP) Science

♦ Grade 5

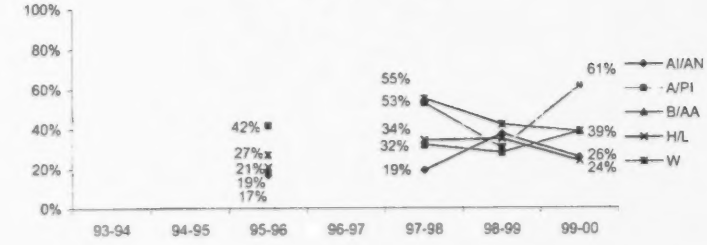
Proficiency	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Proficient			18%	31%	33%	29%	37%
Not Prof.			82%	69%	67%	71%	63%
Total num of students			11,906	11,797	12,200	12,567	13,329



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

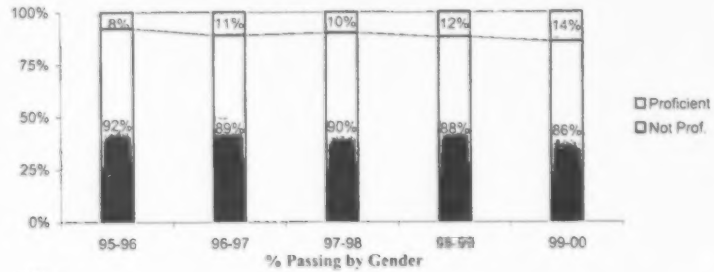
% Passing defined as "Satisfactory/ Proficient" ( ) Data Missing

78

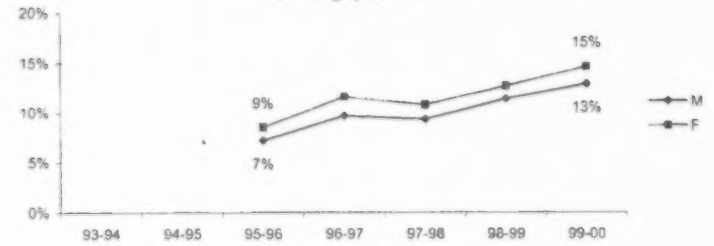
State Assessment Test-Taker Trends - (MEAP) Science

♦ Grade 8

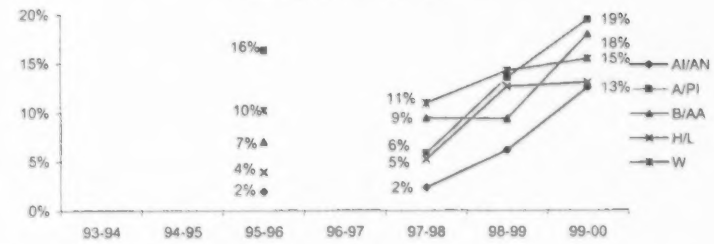
Proficiency	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Proficient			8%	11%	10%	12%	14%
Not Prof.			92%	89%	90%	88%	86%
Total num of students			10,179	9,953	9,773	9,967	9,690



% Passing by Gender



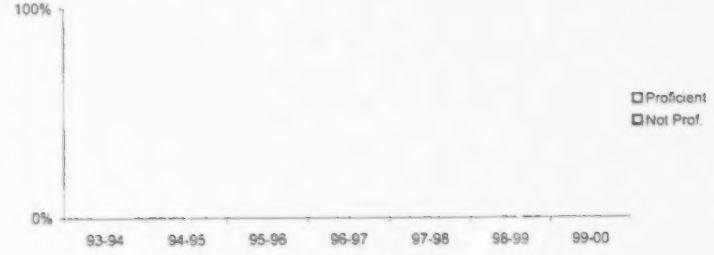
% Passing by Race/Ethnicity



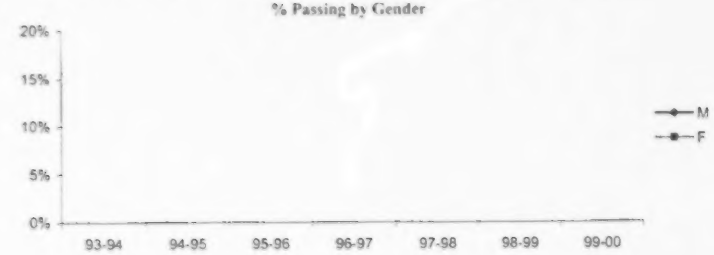
State Assessment Test-Taker Trends - (MEAP) Science

♦ Grade 10

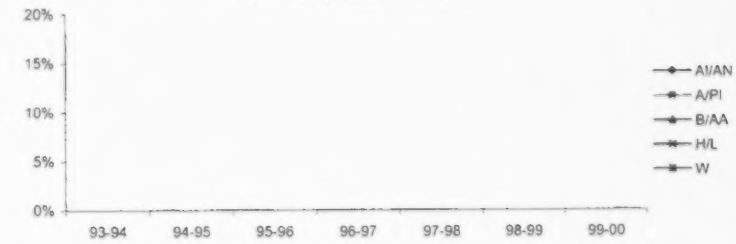
Proficiency	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Proficient							
Not Prof.							
Total num of students							



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as "Satisfactory/ Proficient" (.) Data Missing

Detroit USI

AP Mathematics Test Result Trends ♦ **AP Mathematics (Calculus AB, Calculus BC, & Statistics)**

♦ **AP Mathematics - Total Number of Tests Taken**

		94	95	96	97	98	99	00
Total num of 11th & 12th students		.	13,427	12,927	.	13,541	.	.
Tests Taken	Calc. AB	61	75	71	71	89	91	72
	Calc. BC	0	0	0	0	0	0	0
	Statistics	0	0	0	0	0	0	2
	Total	**61**	**75**	**71**	**71**	**89**	**91**	**74**
Num of tests taken/1,000 stu.		.	5.6	5.5	.	6.6	.	.
Scoring Above 3		26	27	28	26	58	41	6
Num of Above 3/ 1,000 students		.	2.0	2.2	.	4.3	.	.

♦ **AP Mathematics - Number of Tests Taken By Gender Per 1,000 Students**

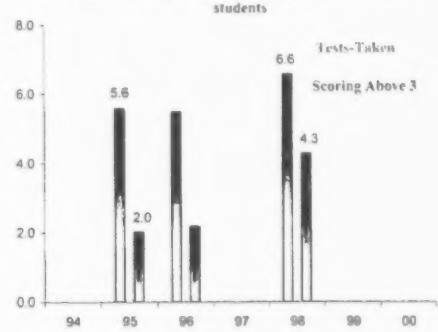
		94	95	96	97	98	99	00
Tests Taken per 1,000	Male	.	4.9	5.9	.	6.8	.	.
	Female	.	6.1	5.2	.	6.4	.	.

♦ **AP Mathematics - Number of Tests Taken By Race/Ethnicity Per 1,000 Students** *1

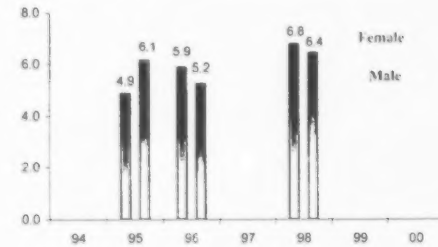
	94	95	96	97	98	99	00
AI/AN	.	0.0	49.2	.	22.7	.	.
A/PI	.	47.6	55.6	.	8.8	.	.
B/AA	.	4.7	4.3	.	5.4	.	.
H/L	.	2.9	0.0	.	13.2	.	.
W	.	15.7	19.8	.	15.1	.	.

AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
*1 "Other" category not presented
( ) Data missing

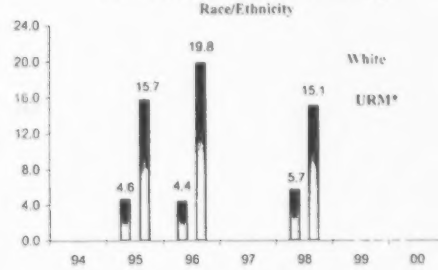
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender

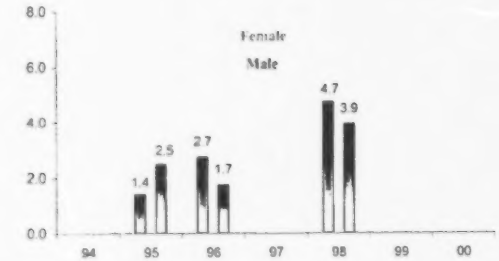


Number of tests taken per 1,000 students by Race/Ethnicity



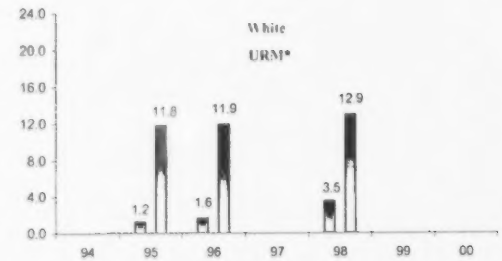
♦ **AP Mathematics - Number of Students Scoring Above 3 By Gender per 1,000 Students**

		94	95	96	97	98	99	00
Score Above 3 per 1,000	Male	.	1.4	2.7	.	4.7	.	.
	Female	.	2.5	1.7	.	3.9	.	.



♦ **AP Mathematics - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students** *1

	94	95	96	97	98	99	00
AI/AN	.	0.0	32.8	.	22.7	.	.
A/PI	.	47.6	22.2	.	8.8	.	.
B/AA	.	1.3	1.5	.	3.4	.	.
H/L	.	0.0	0.0	.	6.6	.	.
W	.	11.8	11.9	.	12.9	.	.



*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

Detroit USI

AP Science Test Result Trends

♦ AP Science - Total Number of Tests Taken

		94	95	96	97	98	99	00
Total num of 11th & 12th students		.	13,427	12,927	.	13,541	.	.
Tests Taken	Biology	2	6	3	16	21	8	7
	Chem.	0	1	2	1	1	1	14
	Enviro. Sci.	0	0	0	0	0	0	0
	Physics B	0	1	0	0	0	0	0
	Ph. C Mech.	8	11	17	9	0	5	1
	Ph. C Elec.	1	0	0	0	0	2	0
	Total	**11**	**19**	**22**	**26**	**22**	**16**	**22**
Num of tests taken/1,000 stu.		.	1.4	1.7	.	1.6	.	.
Scoring Above 3		5	5	2	2	2	8	3
Num of Above 3/ 1,000 students		.	0.4	0.2	.	0.1	.	.

♦ AP Science - Number of Tests Taken By Gender Per 1,000 Students

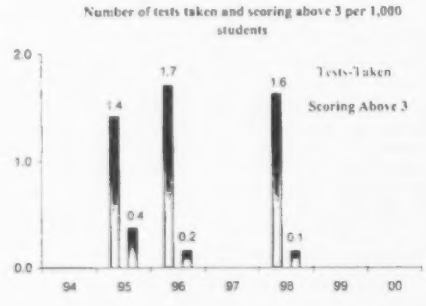
		94	95	96	97	98	99	00
Tests Taken per 1,000	Male	.	0.7	2.0	.	0.5	.	.
	Female	.	2.0	1.5	.	2.5	.	.

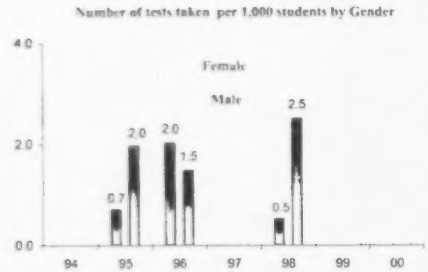
♦ AP Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [*1]

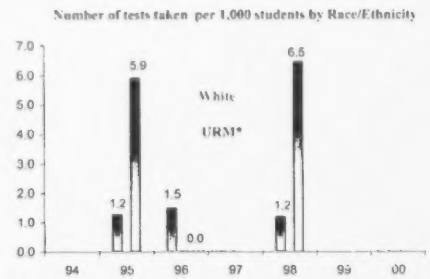
	94	95	96	97	98	99	00
AI/AN	.	0.0	32.8	.	0.0	.	.
A/PI	.	35.7	33.3	.	0.0	.	.
B/AA	.	1.3	1.3	.	1.2	.	.
H/L	.	0.0	0.0	.	0.0	.	.
W	.	5.9	0.0	.	6.5	.	.

AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented
( ) Data missing

♦ AP Science (Biology, Chemistry, Environ. Sci., Phy. B, Phy. C Mech., & Phy. C Elec.)

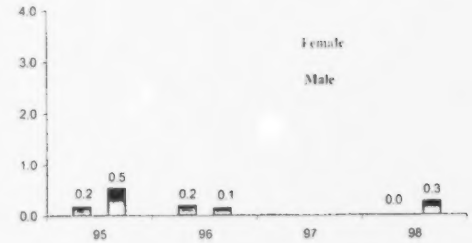






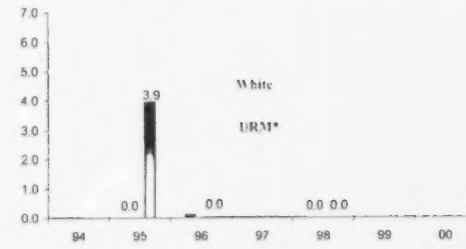
♦ AP Science - Number of Students Scoring Above 3 By Gender per 1,000 Students

		94	95	96	97	98	99	00
Score Above 3 per 1,000	Male	.	0.2	0.2	.	0.0	.	.
	Female	.	0.5	0.1	.	0.3	.	.



♦ AP Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [*1]

	94	95	96	97	98	99	00
AI/AN	.	0.0	0.0	.	0.0	.	.
A/PI	.	35.7	0.0	.	0.0	.	.
B/AA	.	0.0	0.1	.	0.0	.	.
H/L	.	0.0	0.0	.	0.0	.	.
W	.	3.9	0.0	.	0.0	.	.



*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

Detroit USI

AP Computer Science Test Result Trends ♦ AP Computer Science (Computer Science A & AB)

♦ AP Computer Science - Total Number of Tests Taken

		94	95	96	97	98	99	00
Total num of 11th & 12th students		.	13,427	12,927	.	13,541	.	.
Tests Taken	Comp. Sci A	0	3	1	14	0	0	0
	Comp. Sci. AB	0	0	0	1	0	0	0
	Total	**0**	**3**	**1**	**15**	**0**	**0**	**0**
Num of tests taken/1,000 stu.		.	0.2	0.1	.	0.0		
Scoring Above 3		0	0	0	1	0	0	0
Num of Above 3/ 1,000 students		.	0.0	0.0	.	0.0		

♦ AP Computer Science - Number of Tests Taken By Gender

Per 1,000 Students

		94	95	96	97	98	99	00
Tests Taken per 1,000	Male	.	0.3	0.0	.	0.0	.	.
	Female	.	0.1	0.1	.	0.0	.	.

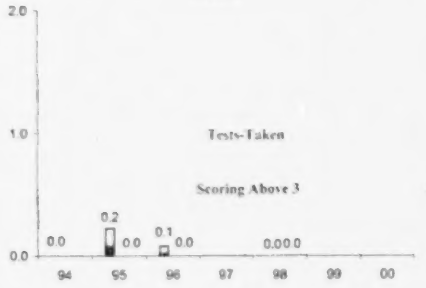
♦ AP Computer Science - Number of Tests Taken By Race/Ethnicity

Per 1,000 Students [*1]

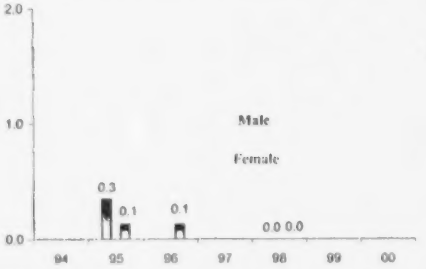
	94	95	96	97	98	99	00
AI/AN	.	0.0	0.0	.	0.0	.	.
A/PI	.	0.0	0.0	.	0.0	.	.
B/AA	.	0.2	0.1	.	0.0	.	.
H/L	.	0.0	0.0	.	0.0	.	.
W	.	0.0	0.0	.	0.0	.	.

AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented
(.) Data Missing

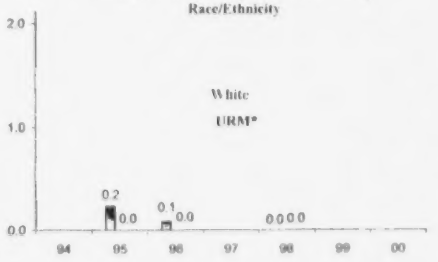
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender

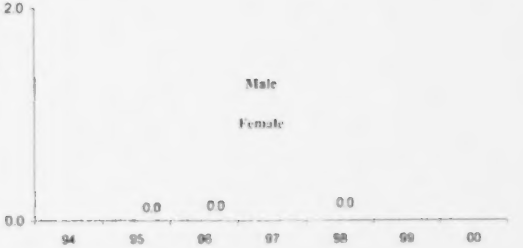


Number of tests taken per 1,000 students by Race/Ethnicity



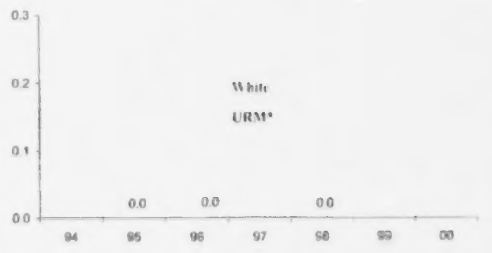
♦ AP Computer Science - Number of Students Scoring Above 3 by Gender per 1,000 Students

		94	95	96	97	98	99	00
Score Above 3 per 1,000	Male	.	0.0	0.0	.	0.0	.	.
	Female	.	0.0	0.0	.	0.0	.	.



♦ AP Computer Science - Number of Students Scoring Above 3 by Race/Ethnicity per 1,000 Students [*1]

	94	95	96	97	98	99	00
AI/AN	.	0.0	0.0	.	0.0	.	.
A/PI	.	0.0	0.0	.	0.0	.	.
B/AA	.	0.0	0.0	.	0.0	.	.
H/L	.	0.0	0.0	.	0.0	.	.
W	.	0.0	0.0	.	0.0	.	.



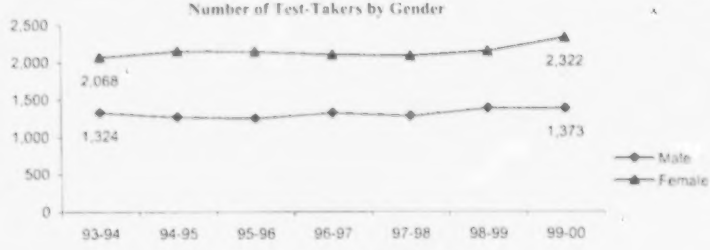
*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

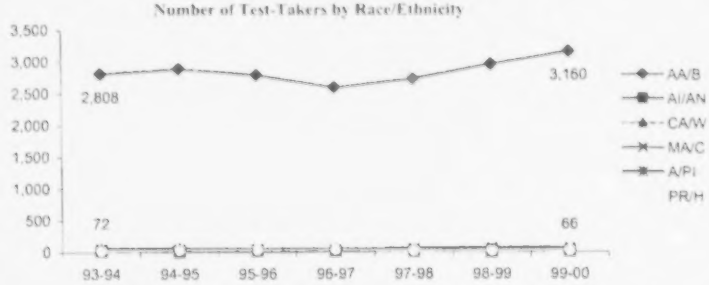
Detroit USI

ACT Test-Takers

♦ Number of Test-Takers

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students [1]		.	5,800	5,432	.	5,868	.	.
Test-Takers		3,392	3,414	3,392	3,414	3,362	3,535	3,708
Num of Test-Takers/1,000 Stu.			589	624		573		
Gender	Male	1,324	1,266	1,249	1,316	1,277	1,378	1,373
	Female	2,068	2,148	2,143	2,098	2,085	2,147	2,322
Race/Ethnicity	AA/B	2,808	2,884	2,794	2,594	2,734	2,958	3,160
	AI/AN	16	9	21	11	11	8	13
	CA/W	72	78	47	62	60	60	44
	MA/C	53	47	47	41	54	64	66
	A/PI	37	48	36	36	36	37	30
	PR/H	22	29	33	34	21	19	21

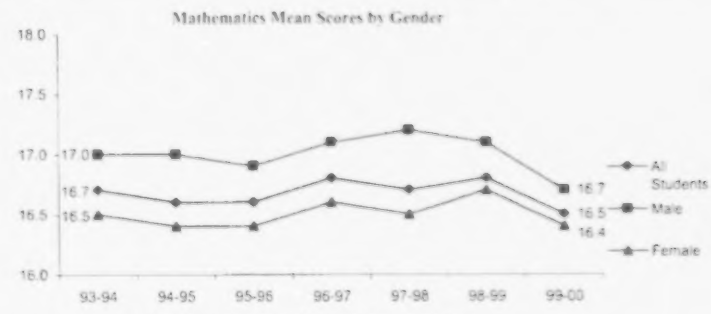


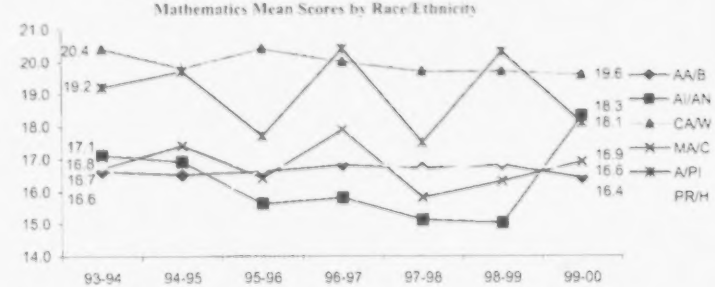


ACT Mathematics Scores

♦ Mathematics - Mean Score Trends

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		16.7	16.6	16.6	16.8	16.7	16.8	16.5
Gender	Male	17.0	17.0	16.9	17.1	17.2	17.1	16.7
	Female	16.5	16.4	16.4	16.6	16.5	16.7	16.4
Race/Ethnicity	AA/B	16.6	16.5	16.6	16.8	16.7	16.8	16.4
	AI/AN	17.1	16.9	15.6	15.8	15.1	15.0	18.3
	CA/W	20.4	19.8	20.4	20.0	19.7	19.7	19.6
	MA/C	16.7	17.4	16.4	17.9	15.8	16.3	16.9
	A/PI	19.2	19.7	17.7	20.4	17.5	20.3	18.1
	PR/H	16.8	15.1	16.7	17.0	16.6	16.9	16.6





AA/B: African-American/Black. AI/AN: American Indian/Alaskan Native. CA/W: Cauc. American/White. MA/C: Mexican American/Chicano. A/PI: Asian/Pacific Islander. PR/H: Puerto Rican/Hispanic.

[1] Data not available for 12th grade enrollment for SY 93-94, 96-97, 98-99, 99-00

( )Data Missing

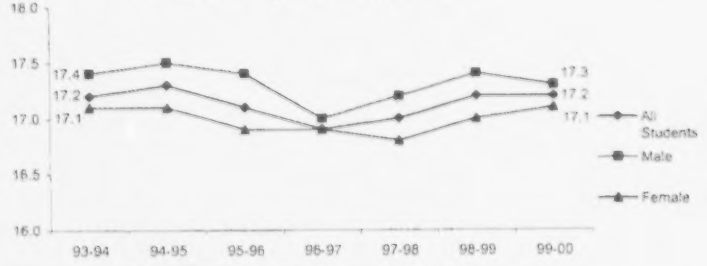
Detroit USI

ACT Science Reasoning Scores

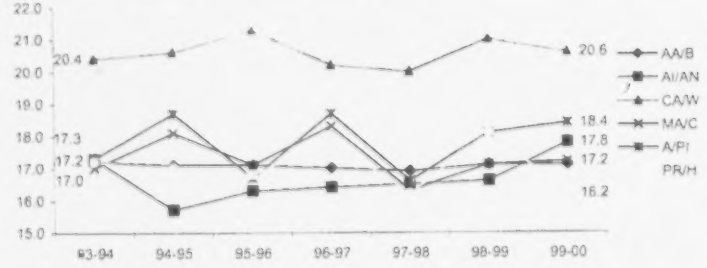
♦ **Science Reasoning - Mean Score Trends**

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		17.2	17.3	17.1	16.9	17.0	17.2	17.2
Gender	Male	17.4	17.5	17.4	17.0	17.2	17.4	17.3
	Female	17.1	17.1	16.9	16.9	16.8	17.0	17.1
Race/Ethnicity	AA/B	17.2	17.1	17.1	17.0	16.9	17.1	17.1
	AI/AN	17.3	15.7	16.3	16.4	16.5	16.6	17.8
	CA/W	20.4	20.6	21.3	20.2	20.0	21.0	20.6
	MA/C	17.0	18.1	17.1	18.3	16.3	17.1	17.2
	A/PI	17.3	18.7	16.7	18.7	16.6	18.1	18.4
	PR/H	17.2	17.0	16.8	17.9	16.2	18.1	16.2

Science Reasoning Mean Scores by Gender



Science Reasoning Mean Scores by Race/Ethnicity



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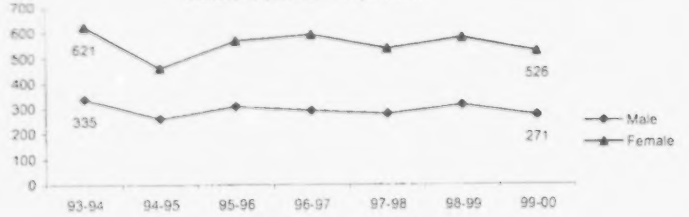
SAT Test-Takers

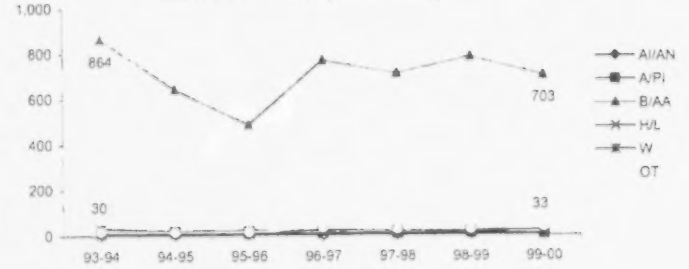
♦ **Number of Test-Takers**

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students [1]		.	5,800	5,432	.	5,868	.	.
Test-Takers		956	719	873	882	814	891	797
Num of Test-Takers/1,000 Stu			124	161	.	139	.	.
Gender	Male	335	259	306	291	277	312	271
	Female	621	460	567	591	537	579	526
Race/Ethnicity	AI/AN	6	5	6	2	5	7	5
	A/PI	10	16	12	14	8	16	6
	B/AA	864	643	488	770	713	785	703
	H/L	11	10	5	7	11	7	4
	W	30	19	22	22	23	20	20
	OT	18	15	15	32	25	25	33

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity



AI/AN: American Indian/Alaskan Native. A/PI: Asian/Pacific Islander. B/AA: Black or African American. H/L: Hispanic or Latino. W: White. OT: Others.

[1] Data not available for 12th grade enrollment for sy 93-94, 96-97, 98-99, 99-00.

( ) Data Missing

Detroit USI

SAT Mathematics Scores

♦ **Mathematics - Mean Score Trends**

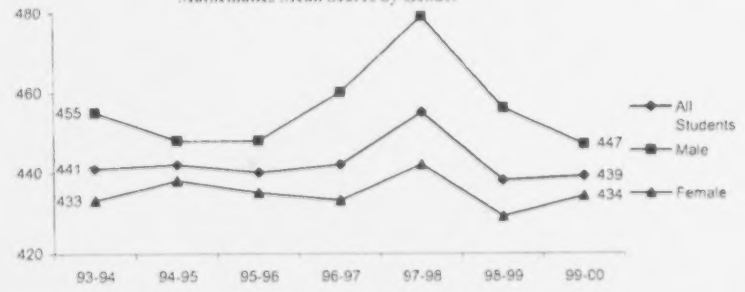
		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		441	442	440	442	455	438	439
Gender	Male	455	448	448	460	479	456	447
	Female	433	438	435	433	442	429	434
Race/Ethnicity	AI/AN [*1]	452	448	437	-	466	373	442
	A/PI	456	532	505	544	480	489	557
	B/AA	437	436	435	436	450	436	436
	H/L [*1]	433	490	482	480	507	423	-
	W	533	565	548	576	563	524	527
	OT	492	445	451	420	471	457	448

SAT Verbal Scores

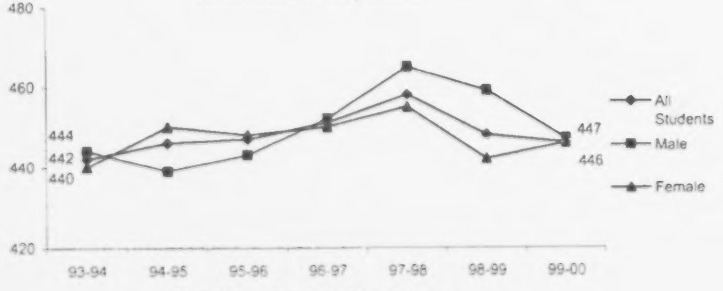
♦ **Verbal - Mean Score Trends**

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		442	446	447	451	458	448	446
Gender	Male	444	439	443	452	465	459	447
	Female	440	450	448	450	455	442	446
Race/Ethnicity	AI/AN [*1]	438	432	447	-	442	379	466
	A/PI	405	466	458	504	440	459	490
	B/AA	437	441	444	447	455	446	443
	H/L [*1]	465	468	480	473	510	430	-
	W	548	581	564	575	573	573	540
	OT	482	479	437	429	472	470	445

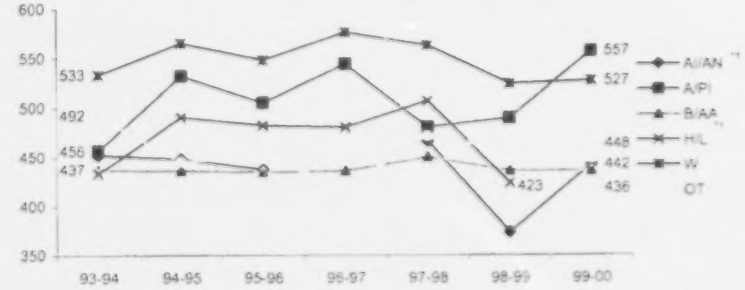
Mathematics Mean Scores by Gender



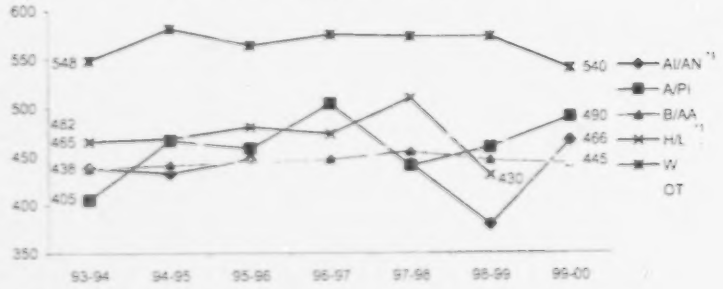
Verbal Mean Scores by Gender



Mathematics Mean Scores by Race/Ethnicity



Verbal Mean Scores by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

[*1] Mean score not presented for sample size less than 5

Detroit USI

Cohort/Scale-Up Approach

	94-95	95-96	96-97	97-98	98-99	99-00
Number of District Schools*:	268	268	268	268	268	268
USI Schools**:	268	268	268	268	268	268
% Schools:	100%	100%	100%	100%	100%	100%

* District Data from www.detroit.k12.mi.us; ** K-1 2001

Primary Decision Making Body

Standards Curriculum	State
Curriculum/TextBook Adoption	District
Student Assessment	State
Professional Development	State
Resources	State
Teacher Hiring	District
Teacher Contracts	District
Certification & Re-certification	State
Graduation Requirements	District
School-Based Management?	Yes

Policies Promoting Equal Access by All Students in High Quality Education

Student Tracking:
- All Remedial Courses eliminated

Criteria for Entry into High Level Mathematics and Science Courses:
- Prerequisite courses programmed

Availability of High Level Courses:

Special Education and Bilingual Students:
- Career Preparation System integrates math, science and careers in schools with resource rooms

Policies Impacting the Enrollment of Students in Challenging Math and Science Courses

Attendance:
- Attendance standards for promotion

Guidance:

Student Support Systems:
- Saturday, after school and summer programs designed to strengthen students in need of support

Others:
- Summer academies at Wayne State University for middle school students, Michigan State University for secondary school students

Policies Relevant to Curriculum

Framework:
- Revised Core Curriculum Frameworks with specific performance indicators for every grade level

Curricula:

Curricula Materials:
- MI CLIMB
- Teachers Teaching with Technology
- MARS
- Summer Success Math
- Connected Mathematics Program
- TERC Investigations
- Jasper Woodbury
- STC, Science Technology for Children
- Carnegie Cognitive Tutor
- FOSS
- Model It
- Insights
- MI Big
- Science Videodiscovery
- Science Sleuths
- State of Michigan Lessons
- Project Based Science Probes
- Atlas for Science Literacy

New Courses Added as a Result of USI:
- None specified

Instructional Time:
- Increased graduation requirements
- Time allocations put in place and made mandatory

Others:
- Articulation Guide (K-12) to ensure continuity in course work across grades in school constellation

Standards-based Curriculum and Instruction

Standards Adopted:
- State and National Standards

Primary Instructional Strategies:

% of Students Experiencing Standards-based Mathematics Curricula:	E: 100% M: 100% H: 100%
% of Students Experiencing Standards-based Science Curricula:	E: 100% M: 100% H: 100%

Policies Relevant to Teacher Qualifications

Certification:
- K-5 All subjects
- 6-8 Major/minor
- Probationary status
- Permanent status requires additional course work

Requirement & Hiring Practices:
- Alternative Paths to Certification program (APT)
- Limited License to Instruct (LLI) programs

Professional Advancement & Leadership Training:

Contract Requirements:

E: Elementary School M: Middle School H: High School

Detroit USI

Professional Development Policies and Practices

Time Required or Supported:	• 51 hours per year is required
Financial Resources Provided:	• Stipends • Mini-grant program • Workshop payment
Alignment to Curricula Standards:	• Yes, the strategies are developed based upon from the state assessment (MEAP); District Assessment (ESAT) Survey data, case studies, current research and site based needs.
Measurement of Impact:	• Peer coaching and supervisor observation reports
Other:	• University Courses • District Inservice Training • Peer coaching
Type and Amount Received by Average Math/Science Teacher:	• Constructivist teaching based

Evaluation Instruments:	
Professional Development Alignment to Content Standards Measures:	
Teacher's Instructional Practices Evaluation:	• By content supervisors, Department Unit heads, principals • Conferences provide feedback
Impact on Student Achievement:	• Yes, data by item and strands are provided by student, classroom teacher and school for the local assessment (ESAT) and state assessment (MEAP)

Policies Relevant to Standards-based Assessments

Extent to Which Assessments are Aligned to District Standards and Curriculums:	• Yes
Methods stakeholders are informed of goals, objectives and accomplishments of assessment program:	• Family Math and Science Activities • Parent Workshops • Science Fair handbook • Classroom volunteerism

USI Leadership, Governance, and Management

Superintendent:	
USI Office:	• Project Director is the chief of Curriculum Development and Related programs • Project Director reports to the Chief Academic Officer
Community Key Personnel:	
Teacher Leaders:	• Peer Coaches

Detroit USI

Partnerships

Other Key Initiatives:
- Eisenhower Professional Development
- Administrators Reform Community (ARC)
- DAPCEP
- Schools of the 21st Century
- Mathematics Science Centers Program
- Title I
- Center for Learning Technologies in Urban Schools (Letus) Scholarly Research Program
- Apprenticeship Programs

Community Stakeholders:
- The Detroit Mathematics and Science Center
- Detroit COMPACT
- Society of Automotive Engineers
- Convergence Foundation

Higher Education:
- Wayne State University
- Michigan State University
- Marygrove College
- Madonna University
- University of Detroit- Mercy
- University of Michigan- Dear born
- Eastern Michigan University
- Lawrence University

Business and Industry:
- Henry Ford Hospital
- IBM
- Reinventing Education
- Kellogg Foundation
- Kettering University
- Lawrence Technological

Other Partnerships:
- Anneberg - Schools of the 21st
- Army Corps of Engineers
- Comer Schools - Skillman Foundation
- Convergence Foundation
- Cranbrook Institute of Science
- Detroit Area Pre-College Engineering Program
- Detroit COMPACT
- Detroit Medical Association
- Detroit Urban League
- Detroit Water and Sewage Department
- Detroit Zoological Society
- Dow Chemical
- Great Lakes Seaway Project

Policy Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	
1994-95	• All remedial courses eliminated
1995-96	• No changes reported
1996-97	• No changes reported
1997-98	• Graduation requirements increased from 2 to 3 years each of math and science
1998-99	• No changes reported

Curriculum and Instruction Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	
1994-95	• New standards-based core curricula for math and science linked to the Michigan Educational Assessment Program (MEAP) and to national standards
1995-96	• Revised core curriculum frameworks along with specific performance indicators for every grade level • Revised curriculum for district is aligned to state and national standards • Newly selected math and science curriculum materials
1996-97	• Algebra I and II restructured • State curriculum frameworks implemented • New 9th grade science course introduced "Integrated Natural Science"
1997-98	• No changes reported
1998-99	• Calculus, Geometry, Physics, and Anatomy and Physiology courses introduced • Michigan Educational Assessment Program curricula • Articulation guide (K-12) to ensure continuity in course work across grades in school • Professional development programs emanate from the evolving professional development model for sustained educational change and "The Constructivist Vision for Teaching and Learning and Professional Development."

Professional Development Policy and Program Changes to Support Teachers During USI Implementation

School Year	Policy Implemented
Before USI	
1994-95	•Articulation Sessions- new standards-based curricula for math & science disseminated •Summer Science Institutes- science curricula consistent with standards
1995-96	•No changes reported
1996-97	•Coordinated system of content & pedagogy guided by the document "The Constructivist Vision for Teaching, Learning and Staff Development" published by the Detroit Public Schools which outlines concepts and practices indicative of excellence in math and science education.
1997-98	•Release time for teacher planning increased •All Professional Development must model the constructivist approach to teaching
1998-99	•No changes reported

Standards-based Assessment System Changes During USI Implementation

School Year	Policy Implemented
Before USI	•Michigan Education Assessment Program (MEAP) Science: G5, 8; Math: G4, 7
1994-95	•Changes in content and substance of science Michigan Educational Assessment Program (MAEP) test- (G 5,8) •Metropolitan Achievement Test (MAT)- (G 1-12)
1995-96	•High School Proficiency Test (G11)
1996-97	•Exit Skills (G1,2)
1997-98	•No changes reported
1998-99	•No changes reported

School District Progress Report

March 2002

El Paso

Urban School Key Indicators of Science and Mathematics Education: 2001

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El Paso USI

Project Information

USI Project Title : El Paso USI
Cohort: 93 (Sept. 94 - Aug. 00)
USI Web Site:

♦ PI, CO-PI and PD

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Dr. Edward Lee Vargas	Co-PI/Superintendent T (915) 595-5513 F (915) 591-4144 evargas@divtech.ysleta.isd.tenet.edu
Dr. Don P. Schulte	Co-PI/Superintendent T (915) 860-3411 F (915) 860-7137 dshulte@socorro.k12.tx.us

♦ USI Data Manager/Evalator

Mr. Gustavo Monzon	Network manager T (915) 747-5778 F (915) 747-5144 gmonzon@utep.edu

♦ Mailing Address

El Paso Collaborative for Academic Excellence
UTEP - Education Bldg. Rm # 413
500 West University Ave.
El Paso, TX 79968-0683

♦ USI Schools Math & Sci. Teachers and Students

99-00	Schools	Teachers	Students
K-G5 (Elementary)	96	4,072	66,537
G6-8 (Middle)	28	457	22,244
G9-12 (High)	16	798	30,396
Total	140	5,327	119,177

Project Summary

Over the past 5 years, the El Paso community has been intensively engaged in an effort to systematically renew education toward assuring academic success for every youngster in our region. This has been a multifaceted effort at the K-12 level, focused in particular on building the capacity of schools to offer a high-quality mathematics and science curriculum and instruction program to all students, and turning around low achievement patterns in those key subject matter areas among our largely minority and poor student population. The El Paso Urban Systemic Initiative funding from the National Science Foundation focused attention on mathematics and science and provided the resources for leveraging funding and collaboration from all partners and for documenting change.

Population Reached: Our goal is to reach all of the approximately 8,500 teachers and their students in the El Paso area. From a global change perspective, all students and teachers have been reached through the development of local science and mathematics standards based on national standards and the dissemination of these standards to every classroom in the area. However, that is only part of the effort of making the standards realized in standards-based curriculum and instruction that reaches all students. The El Paso effort began at the elementary school level where currently 30 percent of the teachers have been directly reached in on-site standards- based instruction initiatives and most others indirectly reached. In the past year the onsite effort has moved to the middle school and high school level where the work has just begun.

Multifaceted Strategies: Policy changes include: (1) the development of community standards (benchmarks for grades 4, 8, 12) based on national standards in mathematics and science, (2) teacher preparation curriculum reform at the University of Texas at El Paso under a Department of Education grant for the University's El Paso Partnership for Excellence in Teacher Education (PETE), (3) new graduation requirements (e.g., all students must pass Algebra I, Geometry, and Algebra II), 4) parallel university admission requirements, and (5) regular review of student data at the level of the superintendents and their staffs to evolve understanding of outcomes and generation of appropriate policy.

Project Goals

- To improve the scientific and mathematical literacy of all students in the community.
- To provide to all students a high-quality mathematics and science education that will permit them to participate fully in a technological society.
- To enable a significantly greater number of these students to pursue careers in mathematics, science, engineering, and technology.

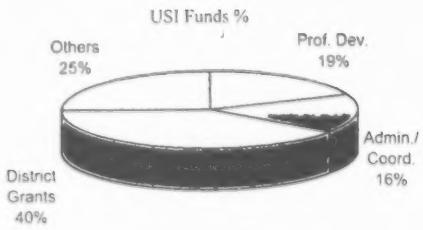
Selected School Indicators (District Average)

	93-94	97-98	Change
%Special Ed.	7.9%	9.4%	+1.5 PP
%LEP	27.6%	31.4%	+3.8 PP
%FRL	61.1%	71.6%	+10.5 PP
%Daily Ave. Atten.	95.1%	-	-
%Average Retained	3.3%	1.4%	-1.9 PP
%Drop-Out	2.8%	-	-
%Mobility	-	-	-
Per Pupil Cost ($)	$5,043	$5,282	+4.7%
Num of Students Per Computer	-	-	-
% Classrooms Internet Access	-	-	-
Average Class Size	22	21	-4.5%

(-) Data Missing PP: Percentage Points

District and USI Fund Utilization (SY 1999-00)

	District	USI
Prof. Dev.	18%	19%
Admin./Coord.	14%	16%
District Grants	44%	40%
Others	24%	25%
Total	100%	100%



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El Paso USI

Student Demographics (SY 1999-00)

District Total:	134,803	
USI Schools:	119,177	88%

♦ Race/Ethnicity

	93-94	99-00	%	% Change
Ame. Ind./Ala. Nat.	258	487	0.4%	+88.8%
Asian/P. Islander	971	1,063	0.8%	+9.5%
Black	4,605	4,451	3.3%	-3.3%
Hispanic	104,170	112,357	83.3%	+7.9%
White	21,154	16,445	12.2%	-22.3%
Other	0	0	0.0%	.
Total	131,158	134,803		+2.8%
URM Total	109,033	117,295	87.0%	+7.6%

URM: Underrepresented Minority students.

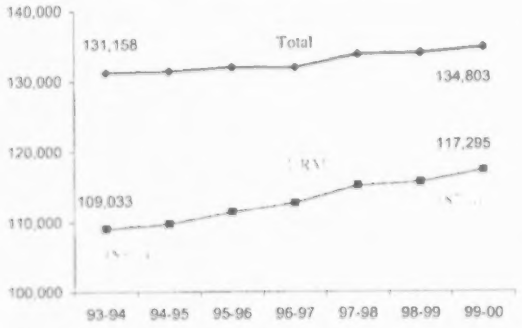
♦ Gender

Male	67,050	68,809	51.0%	+2.6%
Female	64,108	65,994	49.0%	+2.9%

♦ Grade

K-G5	59,724	60,948	45.2%	+2.0%
G6-8	29,880	29,750	22.1%	-0.4%
G9-12	36,464	38,683	28.7%	+6.1%
Ungraded	5,090	5,422	4.0%	+6.5%

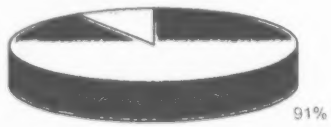
♦ District-Wide Student Demographic Trends



12th Grade Graduates

	93-94	99-00	Change
Total 12th Grade	7,024	8,224	+17%
Earned a Diploma	6,704	7,488	+12%
% Earned Diploma	95%	91%	-4 PP

% Earned Diploma



College Entrance

	93-94	99-00	Change
2 Yr College	.	.	.
4 Yr College	.	.	.
Other Post-Secon.	.	.	.
Total C. E.	.	.	.
% C. E./Earned Dip.	.	.	.

% College Entrance

High School Graduation Requirements SY 99-00

- Mathematics
  - 3 units.
  - Courses: Algebra I, II, and Geometry.
- Science
  - 3 units.
  - Courses: Physical Science, Biology, and Chemistry.

(.) Data Missing

PP: Percentage Points

Math and Science Teachers & Certification

♦ Mathematics (G6-12)

		93-94	99-00	Change
G6-8	Teachers	198	270	+36%
	Certified	170	.	.
	% Cert.	86%	.	.
G9-12	Teachers	268	465	+74%
	Certified	250	.	.
	% Cert.	93%	.	.
Total	Teachers	466	735	+58%
	Certified	420	.	.
	% Cert.	90%	.	.

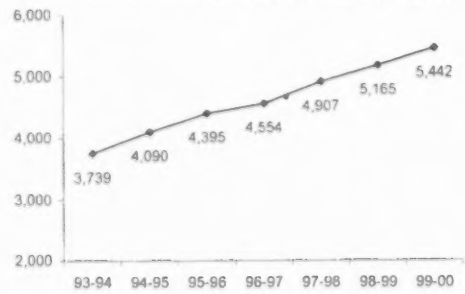
♦ Science (G6-12)

		93-94	99-00	Change
G6-8	Teachers	92	194	+111%
	Certified	90	.	.
	% Cert.	98%	.	.
G9-12	Teachers	141	349	+148%
	Certified	130	.	.
	% Cert.	92%	.	.
Total	Teachers	233	543	+133%
	Certified	220	.	.
	% Cert.	94%	.	.

♦ Math and Science (K-G5)

		93-94	99-00	Change
K-G5	Teachers	3,040	4,164	+37%

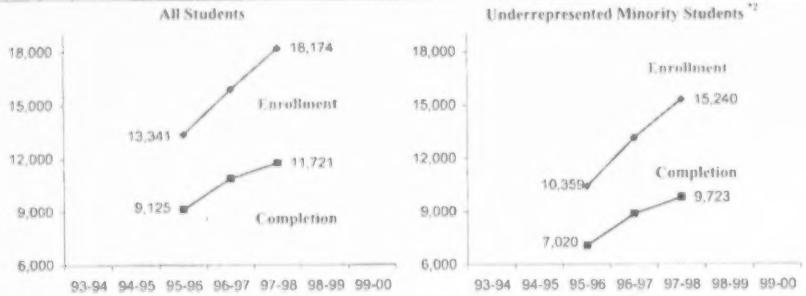
Total Number of Math and Sci. Teachers (K-G12)



Mathematics and Science Enrollment & Completion Trends/ All vs. URM

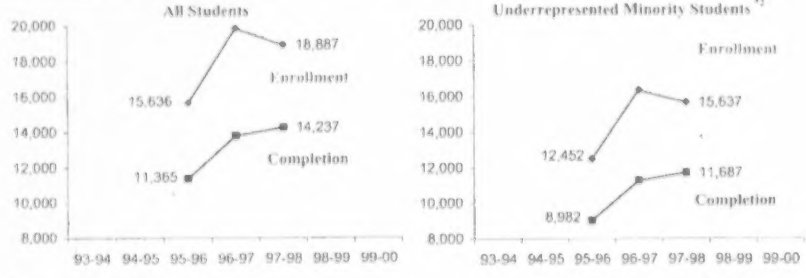
G 9-12 Mathematics Gate-Keeping Courses (Algebra II, Geo., and Calculus)

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		36,464	35,774	36,574	37,243	38,253	38,370	38,683
All Students	Enrollment	.	.	13,341	15,852	18,174	.	.
	Completion *1	.	.	9,125	10,855	11,721	.	.
	% Enroll/ G9-12	.	.	36%	43%	48%	.	.
URM *2	Enrollment	.	.	10,359	13,092	15,240	.	.
	Completion *1	.	.	7,020	8,804	9,723	.	.
	% Enroll/ G9-12	.	.	34%	42%	47%	.	.



G 9-12 Science Gate-Keeping Courses (Biology 1, Chem. 1, and Physics 1)

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		36,464	35,774	36,574	37,243	38,253	38,370	38,683
All Students	Enrollment	.	.	15,636	19,824	18,887	.	.
	Completion *1	.	.	11,365	13,764	14,237	.	.
	% Enroll/ G9-12	.	.	43%	53%	49%	.	.
URM *2	Enrollment	.	.	12,452	16,329	15,637	.	.
	Completion *1	.	.	8,982	11,238	11,687	.	.
	% Enroll/ G9-12	.	.	41%	52%	48%	.	.



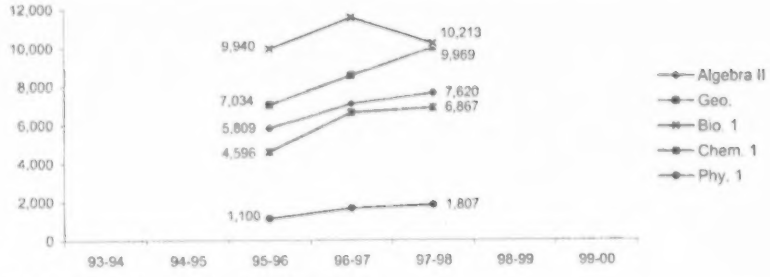
*1 Successful completion: grade 'D' or above. (.) Data Missing

*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Mathematics and Science Enrollment & Completion Trends By Subject

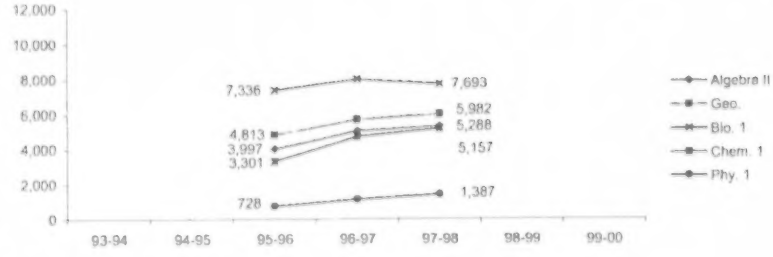
G 9-12 Course Enrollment (All Students)

	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
93-94	.	.	.	.	.	.	.	.
94-95	.	.	.	.	.	.	.	.
95-96	5,809	7,034	498	13,341	9,940	4,596	1,100	15,636
96-97	7,070	8,541	241	15,852	11,551	6,623	1,650	19,824
97-98	7,620	9,969	585	18,174	10,213	6,867	1,807	18,887
98-99	.	.	.	.	.	.	.	.
99-00	.	.	.	.	.	.	.	.



G 9-12 Course Completion *1 (All Students)

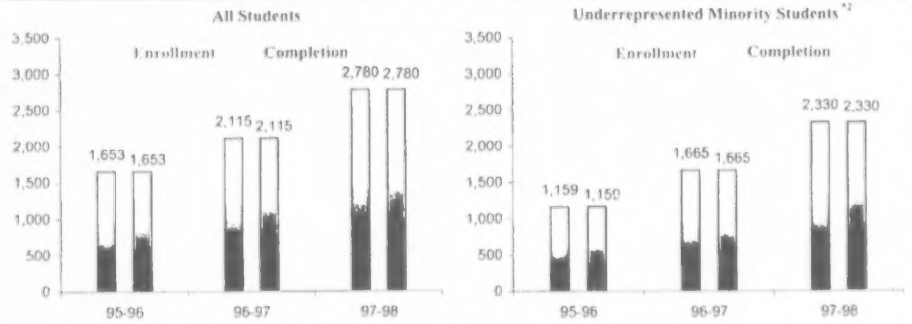
	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
93-94	.	.	.	.	.	.	.	.
94-95	.	.	.	.	.	.	.	.
95-96	3,997	4,813	315	9,125	7,336	3,301	728	11,365
96-97	5,014	5,684	157	10,855	7,973	4,698	1,093	13,764
97-98	5,288	5,982	451	11,721	7,693	5,157	1,387	14,237
98-99	.	.	.	.	.	.	.	.
99-00	.	.	.	.	.	.	.	.



*3 Calculus not represented on graph.

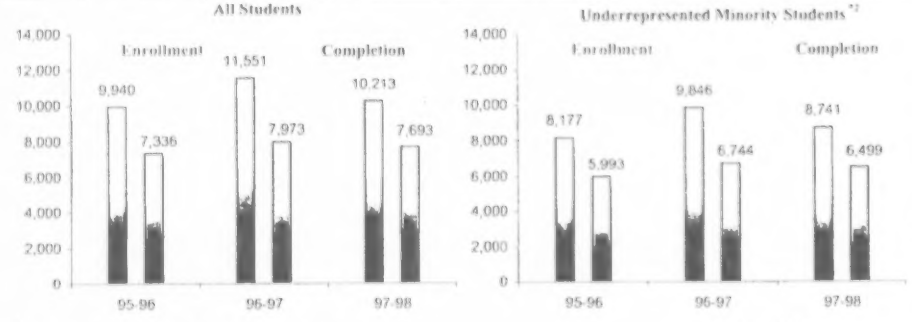
Algebra I or Above in 8th Grade Enrollment & Completion Trends/ All vs. URM

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 8 Population		9,805	9,924	9,930	9,632	9,941	10,118	10,041
All Students	Enrollment			1,653	2,115	2,780		
	Completion [1]			1,653	2,115	2,780		
	% Enroll/ G8			17%	22%	28%		
URM [2]	Enrollment			1,159	1,665	2,330		
	Completion [1]			1,159	1,665	2,330		
	% Enroll/ G8			14%	20%	28%		



Biology Enrollment & Completion Trends/ All vs. URM

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students	Enrollment			9,940	11,551	10,213		
	Completion [1]			7,336	7,973	7,693		
URM [2]	Enrollment			8,177	9,846	8,741		
	Completion [1]			5,993	6,744	6,499		



[1] Successful completion: grade 'D' or above. ( ) Data Missing

[2] Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Professional Development Participation of Teachers Teaching Mathematics and/or Science

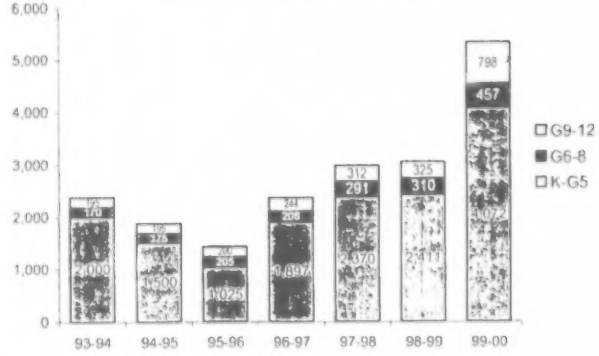
Total Number Teachers by Subject (G6-12)

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Mathematics	466	500	545	550	584	832	735
Science	233	290	350	391	440	519	543

Total Number of Teachers Participating in PD by Grade Level

Teachers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total K-G5	3,040	3,300	3,500	3,613	3,883	3,814	4,164
# K-G5 Participated	2,000	1,500	1,025	1,897	2,370	2,411	4,072
% K-G5 Participated	66%	45%	29%	53%	61%	63%	98%
Total G6-8	290	325	360	379	420	479	464
# G6-8 Participated	170	175	205	208	291	310	457
% G6-8 Participated	59%	54%	57%	55%	69%	65%	98%
Total G9-12	409	465	535	562	604	872	814
# G9-12 Participated	195	195	200	244	312	325	798
% G9-12 Participated	48%	42%	37%	43%	52%	37%	98%

Number of Teachers Participating in Professional Development by Grade Level Taught



Number of Teachers by Duration of Professional Development

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
1-59 Hours	2,275	1,780	1,120	1,297	2,180	1,670	3,418
60-119 Hours	90	90	310	662	664	811	1,364
120-200 Hours	0	0	0	390	129	565	535
More than 200 Hours	0	0	0	0	0	0	10

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District Assessment Test Administered

♦ Mathematics

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name							
Scoring							
Grade							
Type							

♦ Science

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name							
Scoring							
Grade							
Type							

State Assessment Test Administered

♦ Mathematics

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	TAAS	TAAS	TAAS	TAAS	TAAS	TAAS	TAAS
Scoring	PF	PF	PF	PF	PF	PF	PF
Grade	3-8,10	3-8,10	3-8,10	3-8,10	3-8,10	3-8,10	3-8,10
Type	CRT	CRT	CRT	CRT	CRT	CRT	CRT

♦ Science

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	TAAS	TAAS	TAAS	TAAS	TAAS	TAAS	TAAS
Scoring	PF	PF	PF	PF	PF	PF	PF
Grade	8	8	8	8	8	8	8
Type	CRT	CRT	CRT	CRT	CRT	CRT	CRT

* TAAS: Texas Assessment of Academic Skills

PC: Percentile SN: Stanine PL: Performance Level

PF: Pass/Fail SS: Scaled Score OT: Other

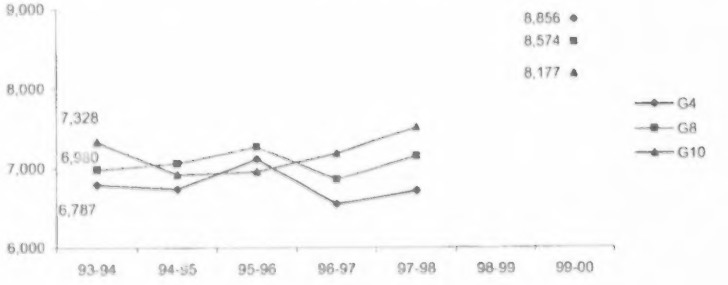
NRT: Norm-Referenced Test CRT: Criterion-Referenced Test

State Assessment Test-Taker Trends Texas Assessment (TAAS)

♦ Mathematics

# of Test-takers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4	6,787	6,731	7,107	6,543	6,708	.	8,856
Grade 8	6,980	7,058	7,267	6,855	7,148	.	8,574
Grade 10	7,328	6,917	6,954	7,181	7,514	.	8,177

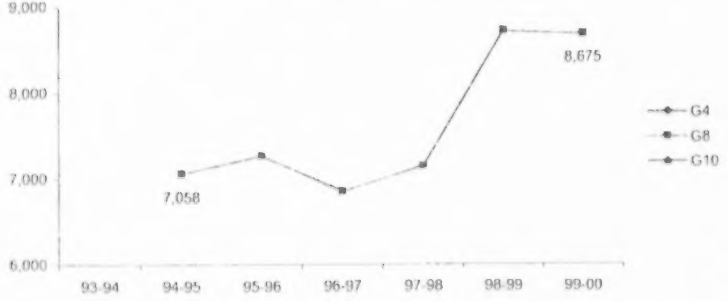
Total number of students taking test



♦ Science

# of Test-takers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4							
Grade 8		7,058	7,267	6,855	7,148	8,708	8,675
Grade 10							

Total number of students taking test



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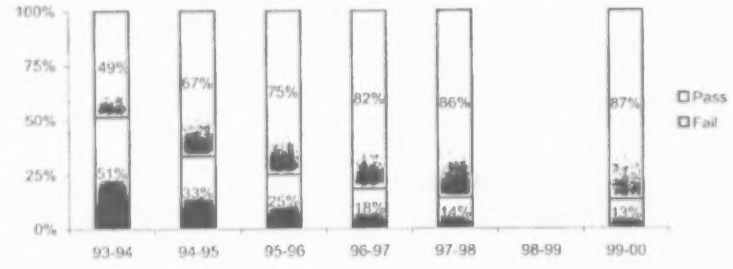
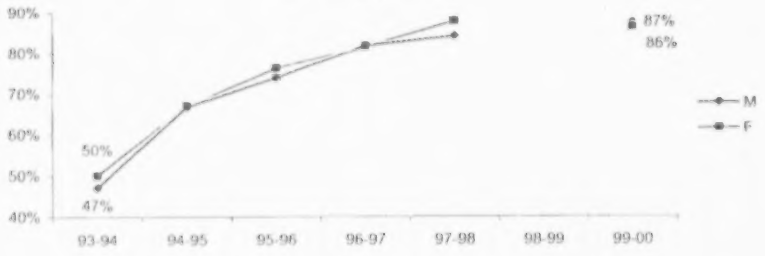
State Assessment Test Result Trends TAAS - Mathematics

♦ Grade 4

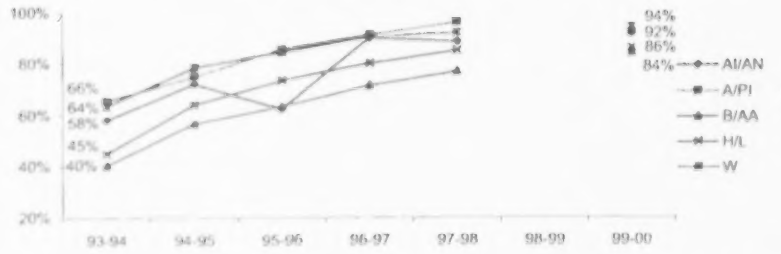
	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Pass	49%	67%	75%	82%	86%		87%
Fail	51%	33%	25%	18%	14%		13%
Total num of students	6,787	6,731	7,107	6,543	6,708		8,856



% Passing by Gender



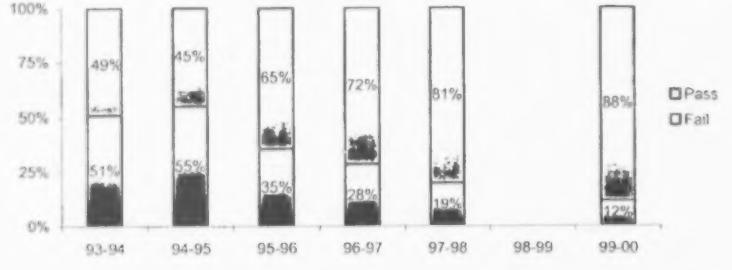
% Passing by Race/Ethnicity



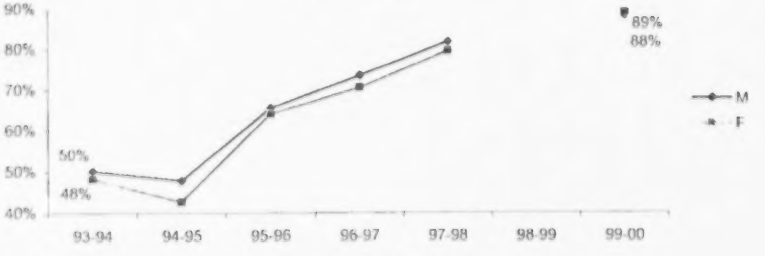
State Assessment Test Result Trends TAAS - Mathematics

♦ Grade 8

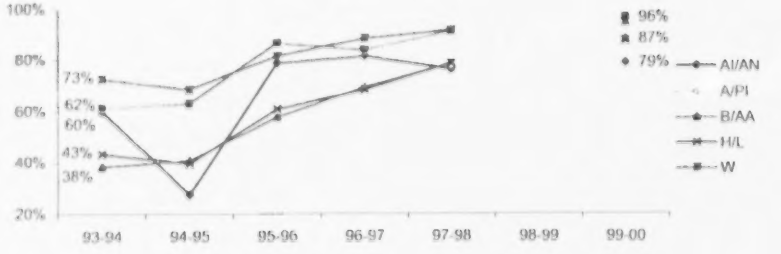
	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Pass	49%	45%	65%	72%	81%		88%
Fail	51%	55%	35%	28%	19%		12%
Total num of students	6,980	7,058	7,267	6,855	7,148		8,574



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

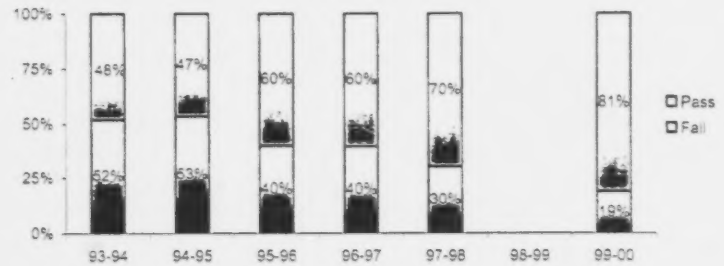
% Passing defined as Pass

( ) Data Missing

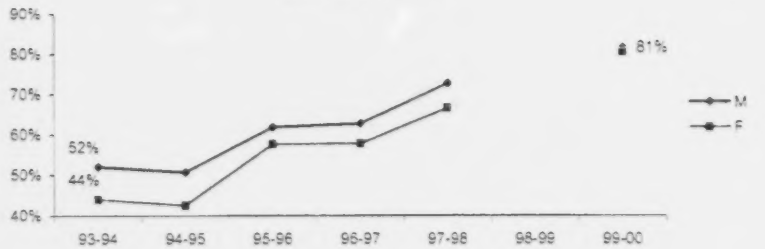
State Assessment Test Result Trends TAAS - Mathematics

♦ Grade 10

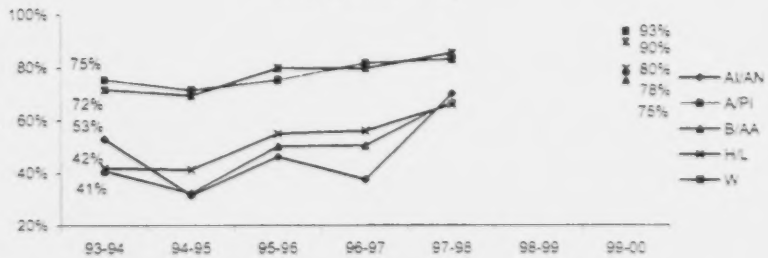
	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Pass	48%	47%	60%	60%	70%	.	81%
Fail	52%	53%	40%	40%	30%	.	19%
Total num of students	7,328	6,917	6,954	7,181	7,514	.	8,177



% Passing by Gender



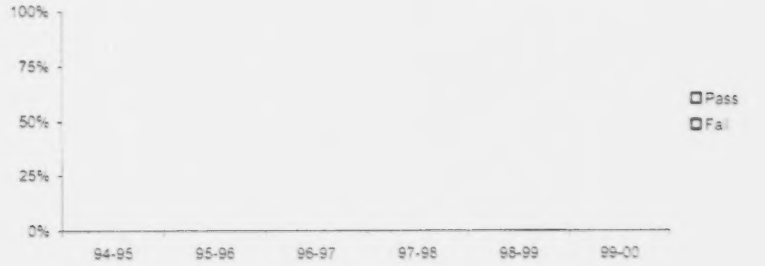
% Passing by Race/Ethnicity



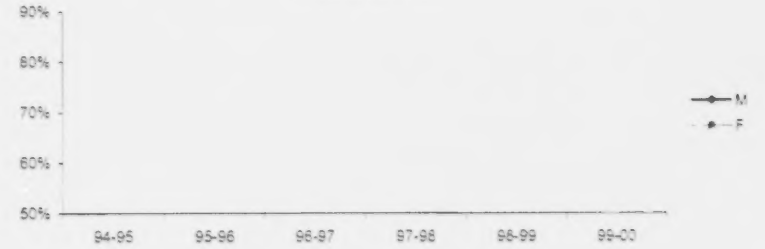
State Assessment Test Result Trends TAAS - Science

♦ Grade 4

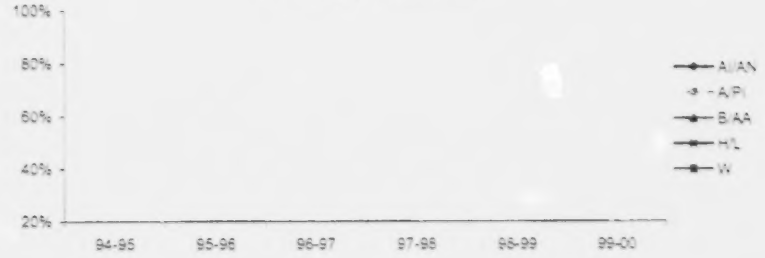
	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Pass							
Fail							
Total num of students							



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native, A/PI: Asian/Pacific Islander, B/AA: Black or African American, H/L: Hispanic or Latino, W: White

% Passing defined as Pass

( ) Data Missing

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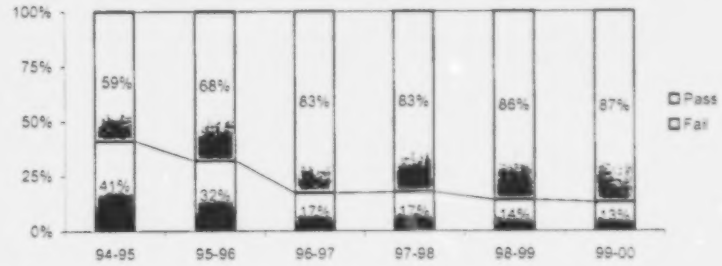
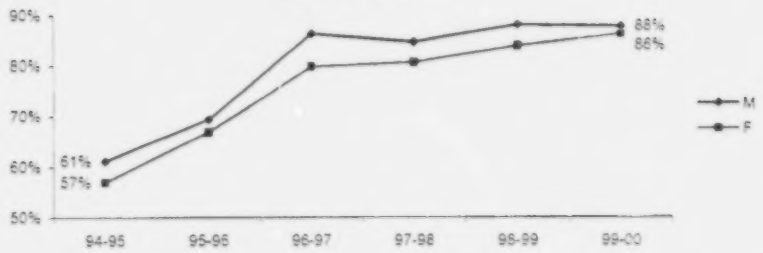
State Assessment Test Result Trends TAAS - Science

• Grade 8

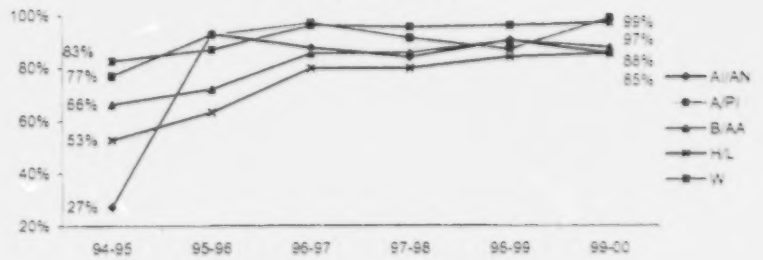
	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Pass		59%	68%	83%	83%	86%	87%
Fail		41%	32%	17%	17%	14%	13%
Total num of students		7,058	7,267	6,855	7,148	8,708	8,675



% Passing by Gender



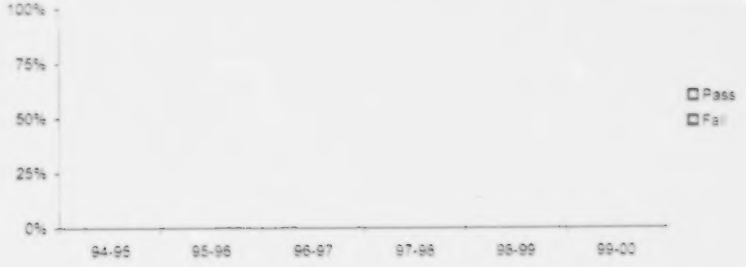
% Passing by Race/Ethnicity



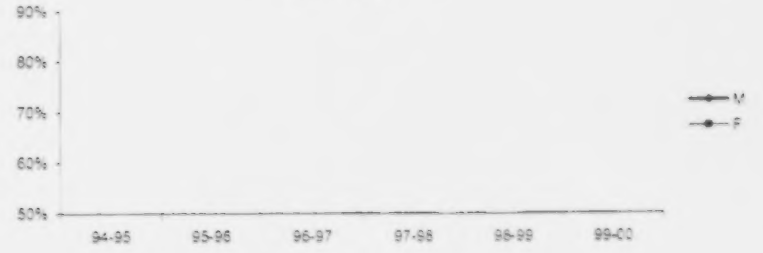
State Assessment Test Result Trends TAAS - Science

• Grade 10

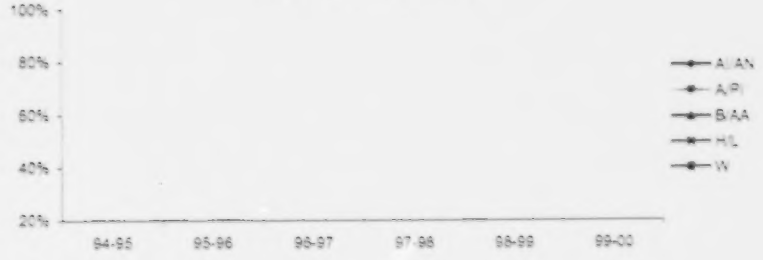
	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Pass							
Fail							
Total num of students							



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as Pass

( ) Data Missing

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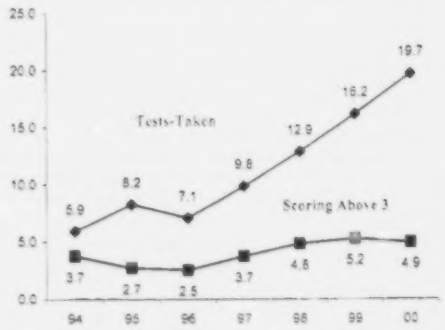
AP Mathematics Test Result Trends ♦ **AP Mathematics (Calculus AB, Calculus BC, & Statistics)**

♦ AP Mathematics - Total Number of Tests Taken

		94	95	96	97	98	99	00
Total Num of 11th & 12th		14,764	14,800	14,595	14,846	16,023	16,587	16,399
Tests Taken	Calc. AB	86	119	101	145	192	227	255
	Calc. BC	1	3	2	0	4	15	9
	Statistics	0	0	0	1	10	26	59
	Total	**87**	**122**	**103**	**146**	**206**	**268**	**323**
Num of tests taken/1,000 stu.		5.9	8.2	7.1	9.8	12.9	16.2	19.7
Scoring Above 3		55	40	37	55	77	87	81
Num of Above 3/ 1,000 students		3.7	2.7	2.5	3.7	4.8	5.2	4.9

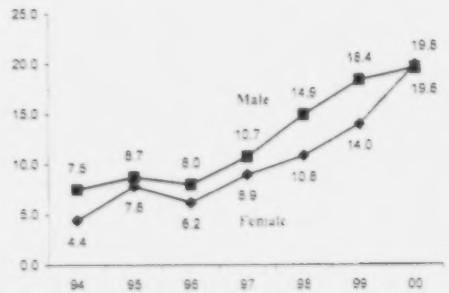
Number of tests taken and scoring above 3 per 1,000 students



♦ AP Mathematics - Number of Tests Taken By Gender Per 1,000 Students

		94	95	96	97	98	99	00
Tests Taken per 1,000	Male	7.5	8.7	8.0	10.7	14.9	18.4	19.6
	Female	4.4	7.8	6.2	8.9	10.8	14.0	19.8

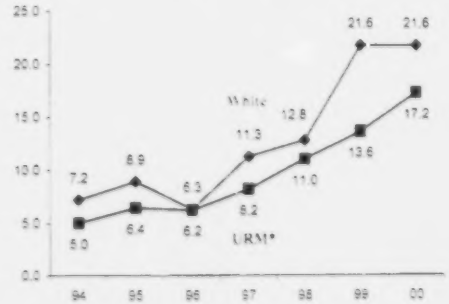
Number of tests taken per 1,000 students by Gender



♦ AP Mathematics - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [*1]

	94	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	51.3	52.6	27.0
A/PI	28.4	64.1	19.4	35.5	93.6	28.7	103.4
B/AA	7.6	2.3	9.2	4.2	13.6	5.5	7.5
H/L	4.9	6.6	6.1	8.4	10.8	13.8	17.5
W	7.2	8.9	6.3	11.3	12.8	21.6	21.6

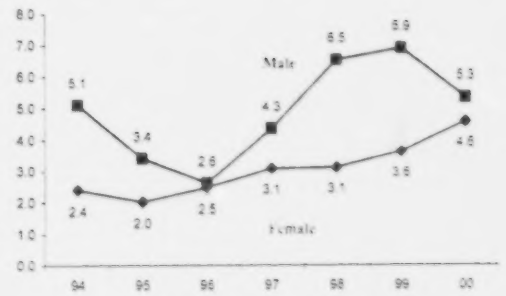
Number of tests taken per 1,000 students by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented

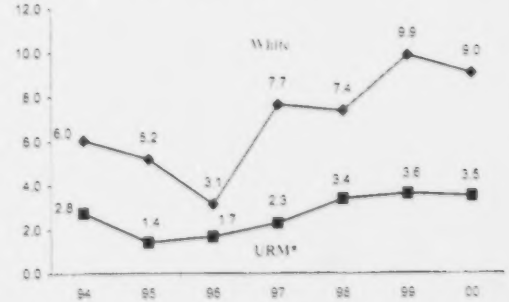
♦ AP Mathematics - Number of Students Scoring Above 3 By Gender per 1,000 Students

		94	95	96	97	98	99	00
Scores Above 3 per 1,000	Male	5.1	3.4	2.6	4.3	6.5	6.9	5.3
	Female	2.4	2.0	2.5	3.1	3.1	3.6	4.6



♦ AP Mathematics - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [*1]

	94	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	25.6	0.0	0.0
A/PI	21.3	32.1	12.9	35.5	58.5	17.2	46.0
B/AA	2.5	0.0	6.9	4.2	3.9	1.8	1.9
H/L	2.8	1.5	1.5	2.2	3.3	3.7	3.6
W	6.0	5.2	3.1	7.7	7.4	9.9	9.0



*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

El Paso USI

AP Science Test Result Trends ♦ **AP Science (Biology, Chemistry, Environ. Sci., Phy. B, Phy. C Mech., & Phy. C Elec.)**

♦ **AP Science - Total Number of Tests Taken**

		94	95	96	97	98	99	00
Total Num of 11th & 12th		14,764	14,800	14,595	14,846	16,023	16,587	16,399
Tests Taken	Biology	7	7	12	54	38	64	68
	Chem.	4	30	22	42	104	107	129
	Enviro. Sci.	0	0	0	0	8	16	14
	Physics B	15	10	13	44	45	56	54
	Ph. C Mech	3	2	1	8	7	22	8
	Ph. C Elec	2	1	1	6	7	19	2
	Total	**31**	**50**	**49**	**154**	**209**	**284**	**275**
Num of tests taken/1,000 stu.		2.1	3.4	3.4	10.4	13.0	17.1	16.8
Scoring Above 3		15	10	15	24	39	47	46
Num of Above 3/ 1,000 students		1.0	0.7	1.0	1.6	2.4	2.8	2.8

♦ **AP Science - Number of Tests Taken By Gender Per 1,000 Students**

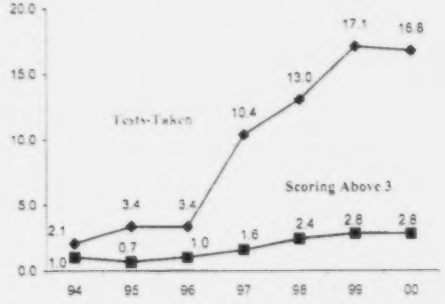
		94	95	96	97	98	99	00
Tests Taken per 1,000	Male	2.9	4.2	4.4	10.3	12.8	19.4	18.2
	Female	1.3	2.5	2.3	10.4	13.3	14.8	15.4

♦ **AP Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students** [*1]

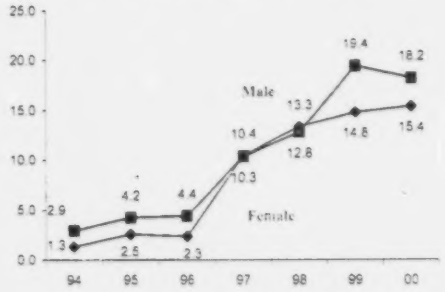
	94	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	21.3	25.6	52.6	54.1
A/PI	35.5	25.6	25.8	47.3	58.5	57.5	51.7
B/AA	12.7	9.4	32.3	59.3	66.1	80.6	112.6
H/L	1.3	3.4	2.5	9.6	12.0	16.2	14.9
W	1.9	1.5	4.7	11.3	12.4	16.0	21.2

AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented

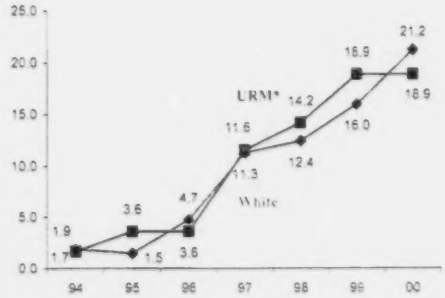
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender

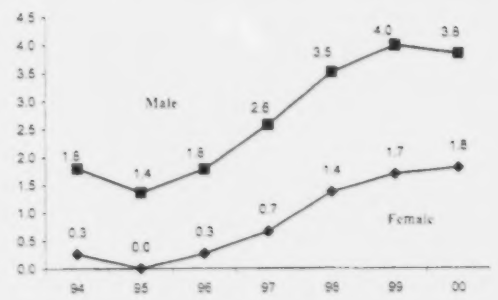


Number of tests taken per 1,000 students by Race/Ethnicity



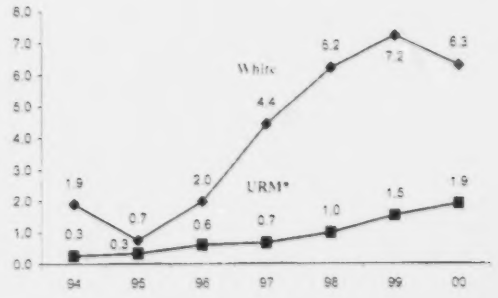
♦ **AP Science - Number of Students Scoring Above 3 By Gender per 1,000 Students**

Score Above 3 per 1,000	94	95	96	97	98	99	00
Male	1.8	1.4	1.8	2.6	3.5	4.0	3.8
Female	0.3	0.0	0.3	0.7	1.4	1.7	1.8



♦ **AP Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students** [*1]

	94	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A/PI	21.3	19.2	12.9	23.7	52.6	28.7	11.5
B/AA	0.0	0.0	2.3	0.0	1.9	0.0	3.8
H/L	0.3	0.3	0.5	0.7	0.9	1.6	1.8
W	1.9	0.7	2.0	4.4	6.2	7.2	6.3



*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

AP Computer Science Test Result Trends

♦ AP Computer Science (Computer Science A & AB)

♦ AP Computer Science - Total Number of Tests Taken

		94	95	96	97	98	99	00
Total Num of 11th & 12th students		14,764	14,800	14,595	14,846	16,023	16,587	16,399
Tests Taken	Comp. Sci A	26	24	15	20	20	25	53
	Comp. Sci. AB	3	4	0	0	3	3	16
	Total	**29**	**28**	**15**	**20**	**23**	**28**	**69**
Num of tests taken/1,000 stu		2.0	1.9	1.0	1.3	1.4	1.7	4.2
Scoring Above 3		13	13	3	11	12	19	34
Num of Above 3/ 1,000 students		0.9	0.9	0.2	0.7	0.7	1.1	2.1

♦ AP Computer Science - Number of Tests Taken By Gender Per 1,000 Students

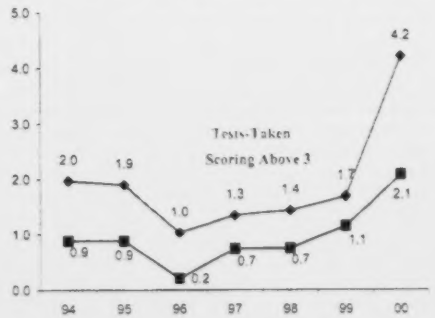
		94	95	96	97	98	99	00
Tests Taken per 1,000	Male	3.0	3.1	1.4	2.3	2.6	2.3	6.1
	Female	0.9	0.7	0.7	0.4	0.2	1.1	2.4

♦ AP Computer Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students[*1]

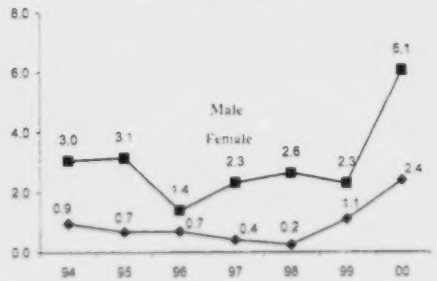
	94	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A/PI	0.0	12.8	12.9	17.8	17.5	0.0	23.0
B/AA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H/L	1.7	1.0	0.6	0.6	0.8	0.9	2.7
W	3.0	4.5	2.0	3.2	3.1	3.8	8.3

AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented

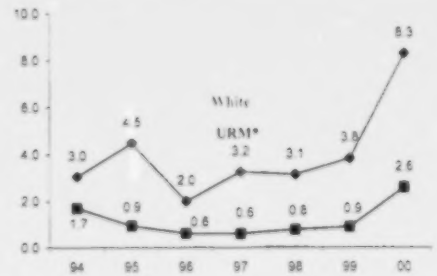
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender

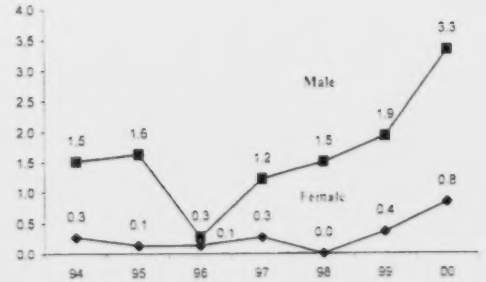


Number of tests taken per 1,000 students by Race/Ethnicity



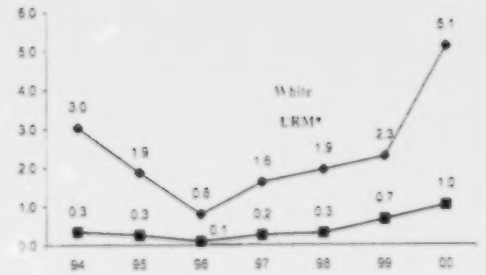
♦ AP Computer Science - Number of Students Scoring Above 3 By Gender per 1,000 Students

Score Above 3 per 1,000		94	95	96	97	98	99	00
	Male	1.5	1.6	0.3	1.2	1.5	1.9	3.3
	Female	0.3	0.1	0.1	0.3	0.0	0.4	0.8



♦ AP Computer Science - Number of Students Scoring Above By Race/Ethnicity per 1,000 Students[*1]

	94	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A/PI	0.0	12.8	0.0	11.8	5.8	0.0	17.2
B/AA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H/L	0.3	0.3	0.1	0.3	0.3	0.7	1.1
W	3.0	1.9	0.8	1.6	1.9	2.3	5.1



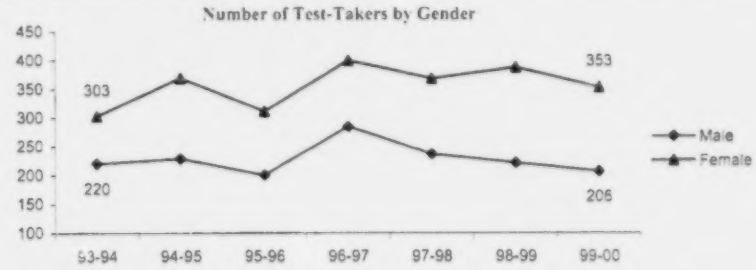
*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

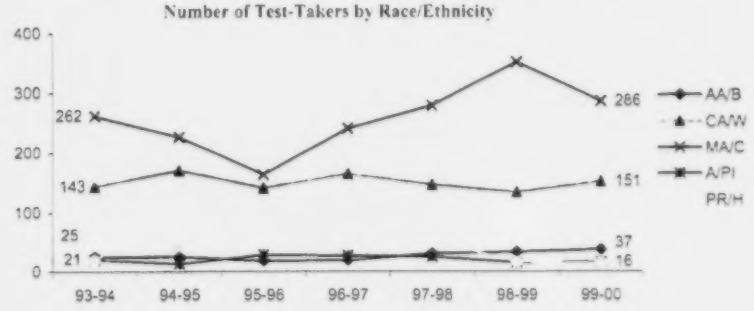
El Paso USI

ACT Test-Takers

♦ Number of Test-Takers

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		7,028	7,088	7,038	6,998	7,660	7,941	8,224
Test-Takers		523	597	511	683	604	609	559
Num of Test-Takers/1,000 Stu.		74	84	73	98	79	77	68
Gender	Male	220	228	200	284	236	221	206
	Female	303	369	311	399	368	387	353
Race/Ethnicity	AA/B	25	25	18	19	30	33	37
	AI/AN [*1]	2	2	4	3	2	1	2
	CA/W	143	170	141	164	146	134	151
	MA/C	262	227	163	241	279	351	286
	A/PI	21	13	28	27	25	15	16
	PR/H	19	113	108	140	52	16	14

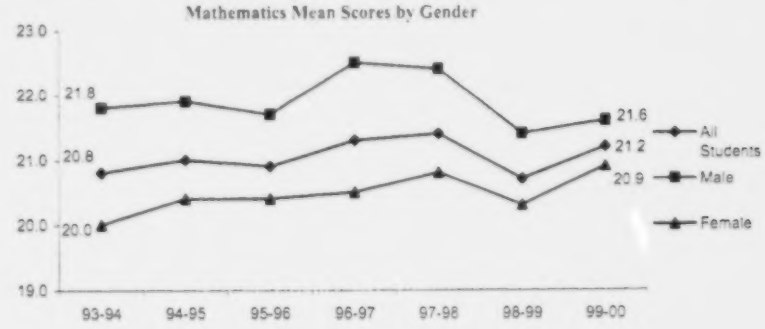


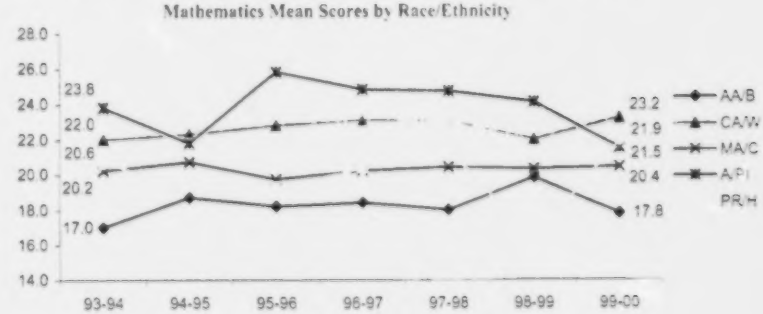


ACT Mathematics Scores

♦ Mathematics - Mean Score Trends

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		20.8	21.0	20.9	21.3	21.4	20.7	21.2
Gender	Male	21.8	21.9	21.7	22.5	22.4	21.4	21.6
	Female	20.0	20.4	20.4	20.5	20.8	20.3	20.9
Race/Ethnicity	AA/B	17.0	18.7	18.2	18.4	18.0	19.8	17.8
	AI/AN [*2]	-	-	-	-	-	-	-
	CA/W	22.0	22.3	22.8	23.1	23.1	22.0	23.2
	MA/C	20.2	20.7	19.7	20.2	20.4	20.3	20.4
	A/PI	23.8	21.8	25.8	24.8	24.7	24.1	21.5
	PR/H	20.6	19.5	19.3	20.3	21.4	16.3	21.9





AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic

[*1] Number of Test-Takers less than 5 not presented in graph

[*2] Mean scores not presented for sample size less than 5

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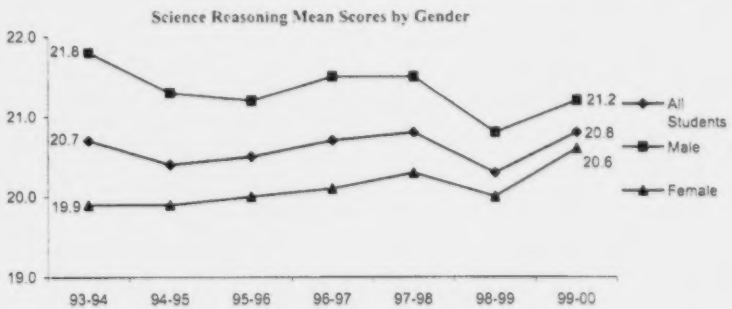
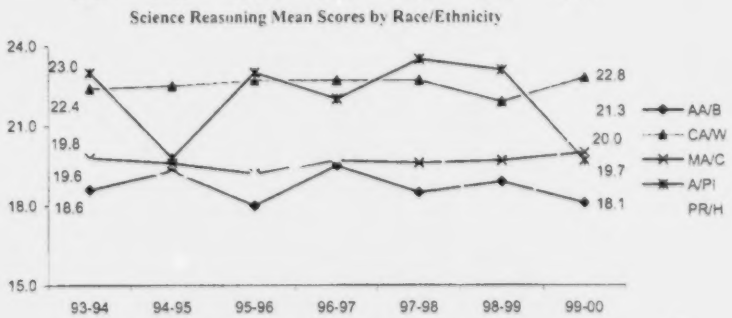
ACT Science Reasoning Scores

♦ Science Reasoning - Mean Score Trends

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		20.7	20.4	20.5	20.7	20.8	20.3	20.8
Gender	Male	21.8	21.3	21.2	21.5	21.5	20.8	21.2
	Female	19.9	19.9	20.0	20.1	20.3	20.0	20.6
Race/Ethnicity	AA/B	18.6	19.3	18.0	19.5	18.5	18.9	18.1
	AI/AN [*]	-	-	-	-	-	-	-
	CA/W	22.4	22.5	22.7	22.7	22.7	21.9	22.8
	MA/C	19.8	19.6	19.2	19.7	19.6	19.7	20.0
	A/PI	23.0	19.8	23.0	22.0	23.5	23.1	19.7
	PR/H	19.6	19.1	19.1	19.8	20.8	16.8	21.3





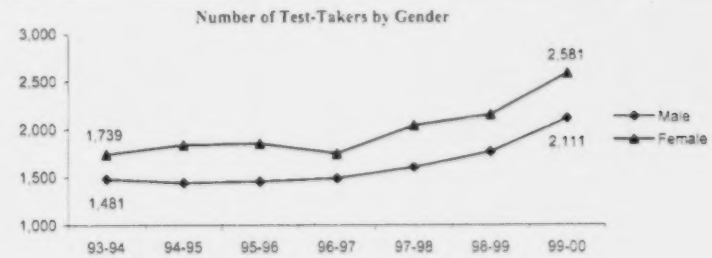
AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.

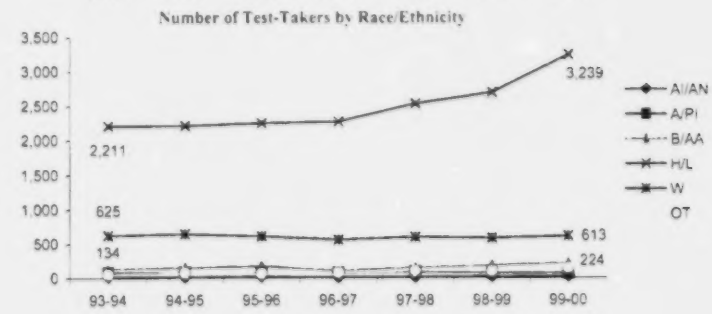
[*] Mean scores not presented for sample size less than 5

SAT Test-Takers

♦ Number of Test-Takers

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		7,028	7,088	7,038	6,998	7,660	7,941	8,224
Test-Takers		3,220	3,278	3,306	3,232	3,640	3,911	4,692
Num of Test-Takers/1,000 Stu		458	462	470	462	475	493	571
Gender	Male	1,481	1,442	1,455	1,487	1,602	1,760	2,111
	Female	1,739	1,836	1,851	1,745	2,038	2,151	2,581
Race/Ethnicity	AI/AN	21	19	25	15	19	22	27
	A/PI	74	84	75	76	97	73	67
	B/AA	134	152	175	109	155	183	224
	H/L	2,211	2,214	2,252	2,272	2,534	2,693	3,239
	W	625	645	610	559	599	582	613
	OT	56	80	70	82	107	100	141





AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

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SAT Mathematics Scores

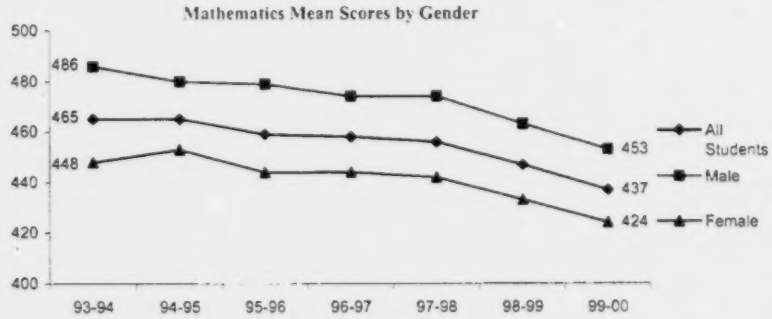
♦ **Mathematics - Mean Score Trends**

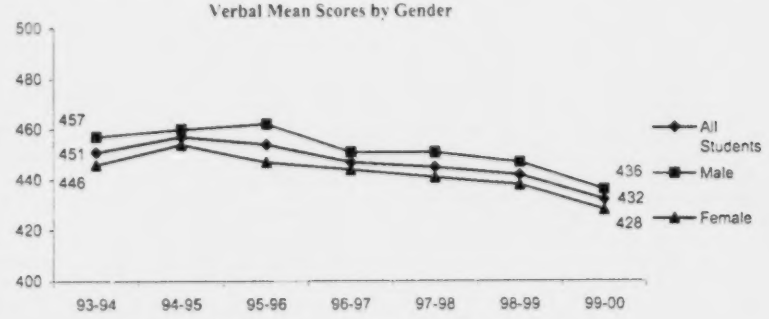
		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		465	465	459	458	456	447	437
Gender	Male	486	480	479	474	474	463	453
	Female	448	453	444	444	442	433	424
Race/Ethnicity	AI/AN	470	466	436	462	464	448	417
	A/PI	532	503	540	526	520	511	500
	B/AA	429	421	436	422	430	408	410
	H/L	452	453	446	445	441	436	430
	W	514	509	509	508	516	509	495
	OT	506	490	500	493	476	461	444

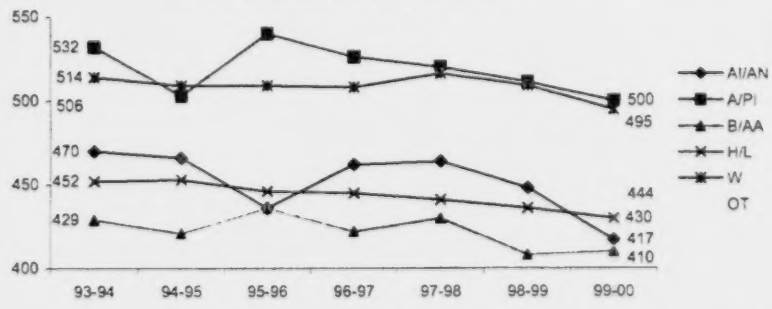
SAT Verbal Scores

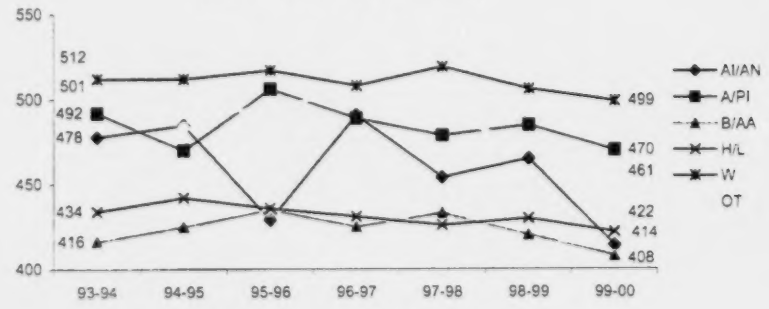
♦ **Verbal - Mean Score Trends**

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		451	457	454	447	445	442	432
Gender	Male	457	460	462	451	451	447	436
	Female	446	454	447	444	441	438	428
Race/Ethnicity	AI/AN	478	485	429	491	454	465	414
	A/PI	492	470	506	489	479	485	470
	B/AA	416	425	435	425	433	420	408
	H/L	434	442	436	431	426	430	422
	W	512	512	517	508	519	506	499
	OT	501	484	499	499	486	478	461









AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

El Paso USI

Cohort/Scale-Up Approach

	94-95	95-96	96-97	97-98	98-99	99-00
Number of District Schools*:	*166*	*166*	*166*	*166*	166	168
USI Schools**:	87	99	94	113	157	140
% Schools	52%	60%	57%	68%	95%	83%

*Core Data Elements 2000-2001; ** K-1 2001

Italics: Data Imputed

Primary Decision Making Body

Standards Curriculum	State
Curriculum/TextBook Adoption	State
Student Assessment	State
Professional Development	District
Resources	District
Teacher Hiring	District
Teacher Contracts	District
Certification & Re-certification	State
Graduation Requirements	District
School-Based Management?	Yes

Policies Promoting Equal Access by All Students in High Quality Education

Student Tracking:

Criteria for Entry into High Level Mathematics and Science Courses: • Open enrollment

Availability of High Level Courses:

Special Education and Bilingual Students: • FB- Section 504: No qualified student with a disability shall, on basis of disability, be excluded from participation in, be denied benefits of, or otherwise be subjected to discrimination under any district service, program, or activity

Policies Impacting the Enrollment of Students in Challenging Math and Science Courses

Attendance: • Students must be present at least 90% of the day a course or program is offered

Guidance:

Student Support Systems:

Policies Relevant to Curriculum

Framework: • Texas Essential Knowledge and Skills (TEKS)

Curriculum:

Curricula Materials:
- Mathematics Investigations
- Connected Math Project (CMP)
- Science and Technology for Children (STC)
- Activities Integrated into Math and Science (AIMS)
- Insights
- Full Option Science System (FOSS)
- Great Explorations in Math and Science (GEMS)
- Global Learning and Observations to Benefit the Environment (GLOBE)

New Courses Added as a Result of USI:

Instructional Time:

Standards-based Curriculum and Instruction

Standards Adopted:

Primary Instructional Strategies:

% of Students Experiencing Standards-based Mathematics Curricula:	E:
	M:
	H:
% of Students Experiencing Standards-based Science Curricula:	E:
	M:
	H:

E: Elementary School M: Middle School H: High School

Policies Relevant to Teacher Qualifications

Certification: • All teachers must have GT certification: 30 hours base, 6 hours/year
- Alternative Certification

Requirement & Hiring Practices

Professional Advancement & Leadership Training:

Contract Requirements: • PDAS; Additional days; Additional days for new teachers

El Paso USI

Professional Development Policies and Practices

Time Required or Supported:

Financial Resources Provided:

Evaluation Instruments:

Professional Development Alignment to Content Standards Measures:

Teacher's Instructional Practices Evaluation:

Impact on Student Achievement:

Policies Relevant to Standards-based Assessments

Alignment to Student Standards:

Extent to Which Assessments are Aligned to District Standards and Curriculums:

Methods stakeholders are informed of goals, objectives and accomplishments of assessment program:

Measurement of Impact:

Other:

Type and Amount Received by Average Math/Science Teacher:

USI Leadership, Governance, and Management

Superintendent:

- Dr. Gilberto Auzaldua, Co-PI
  Superintendent, El Paso ISD
- Dr. Edward Lee Vargas, Co-PI
  Superintendent, Ysleta ISD
- Dr. Don P. Schulte, Co-PI
  Superintendent, Sorroco ISD

USI Office:

- Dr. M. Susana Navarro
  Executive Director
- Alex Pearson, Data Manager
  T (915)747-5778 F (915)747-5144
  apearson@utep.edu

Community Key Personnel:

Teacher Leaders:

El Paso USI

Partnerships

Other Key Initiatives:

Community Stakeholders:

Higher Education:

Business and Industry:

Other Partnerships:

Policy Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	
1994-95	• State-wide dropped FOM and Pre-Algebra
1995-96	• No changes reported
1996-97	• No changes reported
1997-98	• No changes reported
1998-99	• Basic Instructional Program - Courses not found in Texas Essential Knowledge and Skills for each discipline shall not be offered • Eliminated - Trigonometry/Elementary Analysis, Computer Mathematics, Physical Science, Geology, Meteorology, Marine Science • Added - Math Models with Applications, Integrated Physics and Chemistry, and combined Geology, Oceanography, and Meteorology into one course

Curriculum and Instruction Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	
1994-95	• No changes reported
1995-96	• No changes reported
1996-97	• No changes reported
1997-98	• No changes reported
1998-99	• No changes reported

Professional Development Policy and Program Changes to Support Teachers During USI Implementation

School Year	Policy Implemented
Before USI	
1994-95	•No changes reported
1995-96	•No changes reported
1996-97	•No changes reported
1997-98	•No changes reported
1998-99	•No changes reported

Standards-based Assessment System Changes During USI Implementation

School Year	Policy Implemented
Before USI	
1994-95	•No changes reported
1995-96	•No changes reported
1996-97	•No changes reported
1997-98	•No changes reported
1998-99	•No changes reported

School District Progress Report

March 2002

Miami-Dade

Urban School Key Indicators of Science and Mathematics Education: 2001

BEST COPY AVAILABLE

Miami-Dade USI

Project Information

USI Project Title : Miami-Dade USI
Cohort: 93 (Sept. 94 - Aug. 99)
USI Web Site: http://dcps.dade.k12.fl.us/usi

♦ PI, CO-PI and PD

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PI/Superintendent
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Dr. Joseph P. Burke
Co-PI/Administartive Directort
T (305) 995-2341 F (305) 995-1916
jburke@sbab.dade.k12.fl.us

Mrs. Constance Thornton
PD/Director
T (305) 995-1955 F (395) 995-1916
cthornton@sbab.dade.k12.fl.us

♦ USI Data Manager/Evaluator

Dr. Sanjie Sanjurjo
Executive Director/Quality Assessment
T (305) 995-1783 F (305) 995-1916
ssanjurjo@sbab.dade.k12.fl.us

♦ Mailing Address

Miami-Dade County Public School
1500 Biscayne Blvd., Suite 326B
Miami, FL 33232

♦ USI Schools Math & Sci. Teachers and Students

98-99	Schools	Teachers	Students
K-G5 (Elementary)	201	8,096	165,861
G6-8 (Middle)	51	929	83,622
G9-12 (High)	32	1,244	99,654
Total	284	10,269	349,137

Project Summary

Improving Science and Mathematics for All Students is the Dade County Public School's 5-year USI plan incorporating each of the six regions of the District. The plan focuses on strengthening content and instruction, extending current school improvement processes, removing barriers to promote equity and excellence, and establishing community partnerships to link mathematics and science learning with the real world. The initiative combines NSF funding with Dade County resources from the Eisenhower program, Title I, Title VI, Project Phoenix, staff development and instructional technology funds, and financial and in-kind contributions from the community. During the third year of implementation, the Dade USI is designed to impact every school and every student through a coordinated, cluster-based approach.

Project Goals

1. Strengthen content and instruction, and enhance student learning through challenging standards-based curricula; quality, research-based programs in schools; rigorous, well-taught courses for teachers; and academic acceleration for students.
2. Extend School Improvement Plans (SIP) to include mathematics and science goals and strategies that assist teachers and schools to improve learning and achievement.
3. Align district policies that will remove barriers, coordinate resources, and establish equitable policies and practices in school mathematics and science.
4. Make connections with community partners that link mathematics and science to real-world issues and careers, and initiate support strategies for students.

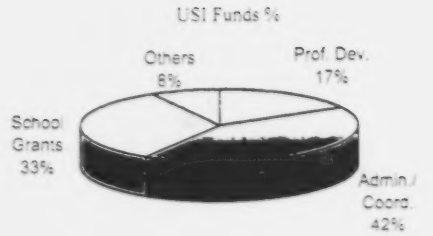
Selected School Indicators (District Average)

	93-94	99-00	Change
%Special Ed.	6.5%	17.4%	+10.9 PP
%LEP	14.3%	16.6%	+2.3 PP
%FRL	53.9%	59.6%	+5.7 PP
%Daily Ave. Atten.	93.1%	93.5%	+0.5 PP
%Average Retained	3.3%	6.4%	+3.1 PP
%Drop-Out	10.5%	6.7%	-3.8 PP
%Mobility	38.0%	33.0%	-5.0 PP
Per Pupil Cost ($)	4,628	5,357	+15.8%
Num of Students Per Computer	-	6	-
% Classrooms Internet Access	-	-	-
Average Class Size	-	-	-

(-) Data Missing PP: Percentage Points

District and USI Fund Utilization (SY 1998-99)

	District	USI
Prof. Dev.	51%	17%
Admin./Coord.	26%	42%
School Grants	18%	33%
Others	5%	8%
Total	100%	100%



Miami-Dade USI

Student Demographics (SY 1999-00)

District Total:	350,603	
USI Schools:	349,137	99.6%

♦ Race/Ethnicity

	93-94	99-00	%	Change
Ame. Ind./Ala. Nat.	134	284	0.1%	+111.9%
Asian/P. Islander	3,879	4,395	1.3%	+13.3%
Black	103,181	111,582	31.8%	+8.1%
Hispanic	148,869	190,627	54.4%	+28.1%
White	49,503	41,757	11.9%	-15.6%
Other	0	1,958	0.6%	
Total	305,566	350,603		+14.7%
URM Total	252,184	308,846	88.1%	+22.5%

URM: Underrepresented Minority students.

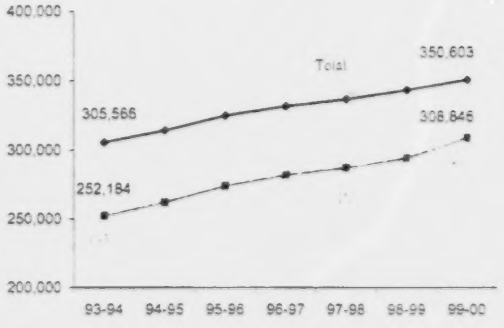
♦ Gender

Male	157,333	179,822	51.3%	+14.3%
Female	148,233	170,781	48.7%	+15.2%

♦ Grade

K-G5	152,645	167,327	47.7%	+9.6%
G6-8	69,882	83,622	23.9%	+19.7%
G9-12	83,039	99,654	28.4%	+20.0%
Ungraded	0	0	0.0%	

♦ District-Wide Student Demographic Trends



12th Grade Graduates

	93-94	99-00	Change
Total 12th Grade	16,770	17,247	+3%
Earned a Diploma	14,557	14,814	+2%
% Earned Diploma	87%	86%	-1 PP

% Earned Diploma

College Entrance

	93-94	99-00	Change
2 Yr College	5,988	4,653	-22%
4 Yr College	4,923	6,027	+22%
Other Post-Secon.	770	696	-10%
Total C. E.	11,681	11,376	-3%
% C. E./Earned Dip.	80%	66%	-14 PP

% College Entrance

High School Graduation Requirements SY 98-99

- Mathematics
  - Completion of Algebra I by 9th grade.
  - Completion of Geometry by 10th grade
  - (effective in 2000-2001).
- Science
  - Completion of Earth Sci. by 9th grade,
  - Biology by 10th grade.
  - Completion of Chemistry or Physical Sci. by 11th grade (effective in 2000-2001).

( ) Data Missing PP: Percentage Points

Math and Science Teachers & Certification

♦ Mathematics (G6-12)

		95-96	98-99	Change
G6-8	Teachers	500	515	+3%
	Certified	•	•	•
	% Cert.	•	•	•
G9-12	Teachers	591	665	+13%
	Certified	•	•	•
	% Cert.	•	•	•
Total	Teachers	1,091	1,180	+8%
	Certified	•	•	•
	% Cert.	•	•	•

♦ Science (G6-12)

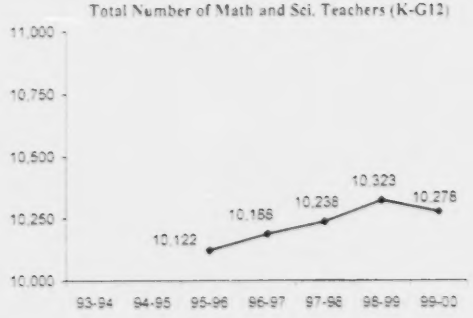
		95-96	98-99	Change
G6-8	Teachers	465	487	+5%
	Certified	•	•	•
	% Cert.	•	•	•
G9-12	Teachers	498	560	+12%
	Certified	•	•	•
	% Cert.	•	•	•
Total	Teachers	963	1,047	+9%
	Certified	•	•	•
	% Cert.	•	•	•

* Data not available for 93-94 & 94-95.

♦ Math and Science (K-G5)

		93-94	98-99	Change
K-G5	Teachers	6,495	8,096	+25%

Total Number of Math and Sci. Teachers (K-G12)

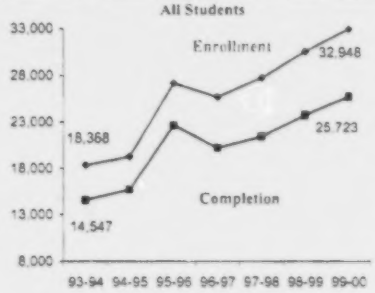


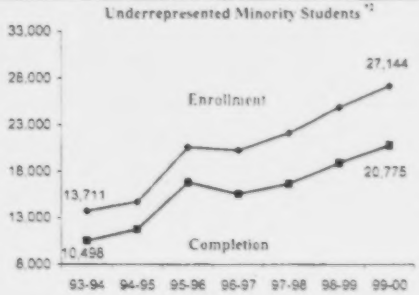
Miami-Dade USI

Mathematics and Science Enrollment &Completion Trends/ All vs. URM

G 9-12 Mathematics Gate-Keeping Courses (Algebra II, Geo., and Calculus)

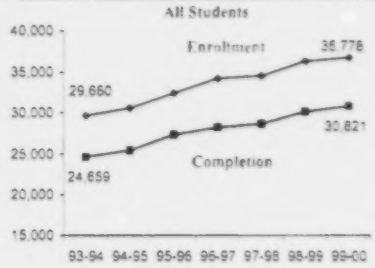
		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		83,039	83,291	86,004	88,464	91,892	95,718	99,654
All Students	Enrollment	18,368	19,283	27,153	25,687	27,700	30,535	32,948
	Completion *1	14,547	15,734	22,604	20,205	21,369	23,726	25,723
	% Enroll/ G9-12	22%	23%	32%	29%	30%	32%	33%
URM *2	Enrollment	13,711	14,669	20,563	20,242	22,075	24,875	27,144
	Completion *1	10,498	11,705	16,797	15,587	16,659	18,880	20,775
	% Enroll/ G9-12	20%	21%	29%	27%	28%	31%	32%

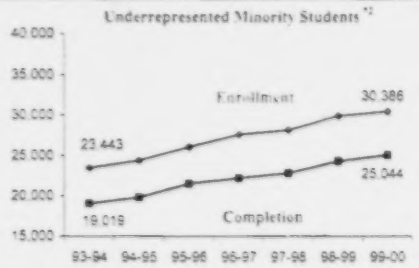




G 9-12 Science Gate-Keeping Courses (Biology 1, Chem. 1, and Physics 1)

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		83,039	83,291	86,004	88,464	91,892	95,718	99,654
All Students	Enrollment	29,660	30,573	32,413	34,221	34,542	36,351	36,778
	Completion *1	24,659	25,460	27,320	28,188	28,624	30,157	30,821
	% Enroll/ G9-12	36%	37%	38%	39%	38%	38%	37%
URM *2	Enrollment	23,443	24,395	26,046	27,552	28,081	29,854	30,386
	Completion *1	19,019	19,818	21,509	22,211	22,814	24,296	25,044
	% Enroll/ G9-12	34%	35%	36%	37%	36%	37%	36%



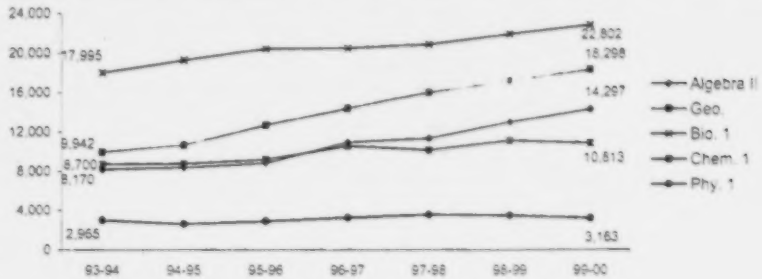


*1 Successful completion: grade 'D' or above.
*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Mathematics and Science Enrollment & Completion Trends By Subject

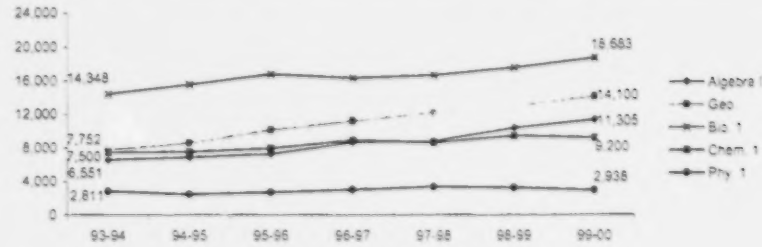
G 9-12 Course Enrollment (All Students)

	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
93-94	8,170	9,942	256	18,368	17,995	8,700	2,965	29,660
94-95	8,347	10,639	297	19,283	19,254	8,757	2,562	30,573
95-96	8,810	12,623	397	21,830	20,396	9,168	2,849	32,413
96-97	10,901	14,373	413	25,687	20,483	10,535	3,203	34,221
97-98	11,328	16,010	362	27,700	20,885	10,144	3,513	34,542
98-99	12,938	17,154	443	30,535	21,865	11,070	3,416	36,351
99-00	14,297	18,298	353	32,948	22,802	10,813	3,163	36,778



G 9-12 Course Completion *1 (All Students)

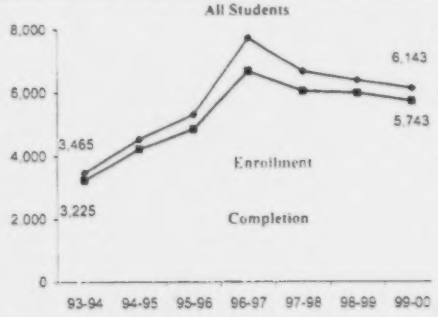
	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
93-94	6,551	7,752	244	14,547	14,348	7,500	2,811	24,659
94-95	6,855	8,604	275	15,734	15,498	7,530	2,432	25,460
95-96	7,251	10,120	372	17,743	16,729	7,930	2,661	27,320
96-97	8,657	11,160	388	20,205	16,284	8,899	3,005	28,188
97-98	8,816	12,215	338	21,369	16,638	8,647	3,339	28,624
98-99	10,362	12,957	407	23,726	17,504	9,438	3,215	30,157
99-00	11,305	14,100	318	25,723	18,683	9,200	2,938	30,821

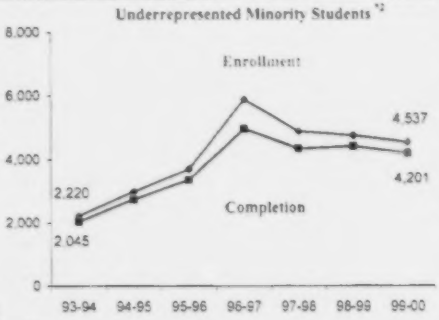


*3 Calculus not represented on graph.

Algebra I or Above in 8th Grade Enrollment & Completion Trends/ All vs. URM

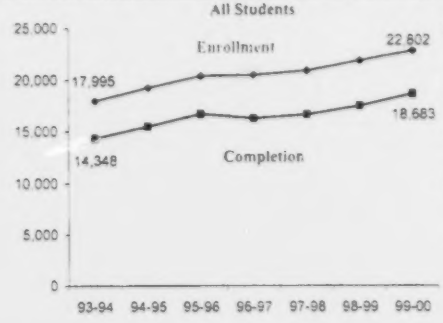
		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 8 Population		21,578	23,141	24,789	26,176	26,003	26,292	26,868
All Students	Enrollment	3,465	4,552	5,323	7,740	6,683	6,397	6,143
	Completion [1]	3,225	4,230	4,861	6,694	6,054	5,990	5,743
	% Enroll/ G8	16%	20%	21%	30%	26%	24%	23%
URM [2]	Enrollment	2,220	2,981	3,702	5,884	4,881	4,750	4,537
	Completion [1]	2,045	2,740	3,354	4,959	4,354	4,422	4,201
	% Enroll/ G8	13%	16%	18%	26%	22%	21%	20%

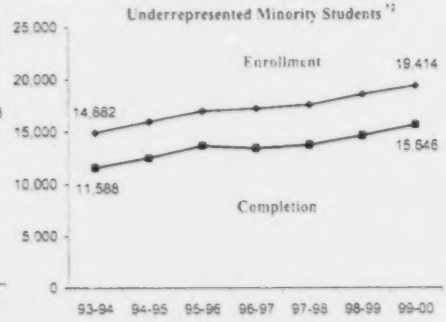




Biology Enrollment & Completion Trends/ All vs. URM

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students	Enrollment	17,995	19,254	20,396	20,483	20,885	21,865	22,802
	Completion [1]	14,348	15,498	16,729	16,284	16,638	17,504	18,683
URM [2]	Enrollment	14,882	15,974	17,004	17,252	17,618	18,599	19,414
	Completion [1]	11,588	12,542	13,669	13,446	13,757	14,621	15,646





[1] Successful completion: grade 'D' or above

[2] Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Professional Development Participation of Teachers Teaching Mathematics and/or Science

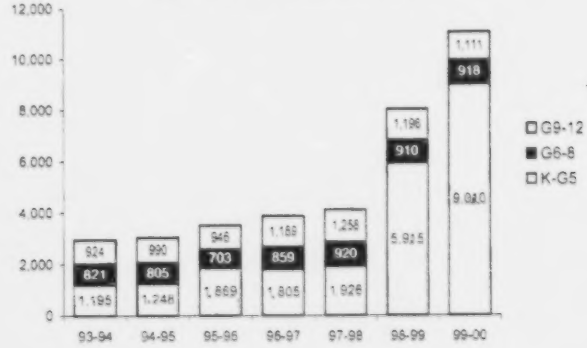
Total Number Teachers by Subject (G6-12)

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Mathematics	.	.	1,091	1,093	1,125	1,170	1,198
Science	.	.	963	989	1,024	1,042	1,084

Total Number of Teachers Participating in PD by Grade Level

Teachers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total K-G5	6,495	8,086	8,068	8,106	8,089	8,096	10,872
# K-G5 Participated	1,195	1,248	1,869	1,805	1,926	5,915	9,010
% K-G5 Participated	18%	15%	23%	22%	24%	73%	83%
Total G6-8	.	.	965	990	979	995	966
# G6-8 Participated	821	805	703	859	920	910	918
% G6-8 Participated	.	.	73%	87%	94%	91%	95%
Total G9-12	.	.	1,089	1,092	1,170	1,217	1,316
# G9-12 Participated	924	990	946	1,189	1,258	1,196	1,111
% G9-12 Participated	.	.	87%	109%	108%	98%	84%

Number of Teachers Participating in Professional Development by Grade Level Taught



Number of Teachers by Duration of Professional Development

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
1-59 Hours	1,789	2,182	2,620	2,761	3,314	7,312	6,539
60-119 Hours	930	676	715	908	644	576	2,865
120-200 Hours	182	153	143	156	125	115	1,244
More than 200 Hours	39	32	40	28	21	18	391

(.) Data Missing

Miami-Dade USI

District Assessment Test Administered

♦ Mathematics

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	SAT-8	SAT-8	SAT-8	SAT-8	SAT-8	SAT-8	SAT-9
Scoring	PC,SN,SS	PC,SN,SS	PC,SN,SS	PC,SN,SS	PC,SN,SS	PC,SN,SS	PC,SN,SS
Grade	G 1-9, 11	G 1-9, 11	G 1-9, 11	G 1-9, 11	G 2-8	G 2-8	G 2
Type	NRT	NRT	NRT	NRT	NRT	NRT	NRT

♦ Science

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	SAT-8	SAT-8	SAT-8	SAT-8	SAT-8	SAT-8	SAT-9
Scoring	PC	PC	PC	PC	PC	PC	PC,SN,SS
Grade	G 3,5	G 3,5,8,11	G 3,5,8,11	G 3,5,8,11	G 3, 5, 8	G 3, 5, 8	G 5, 7, 9
Type	NRT	NRT	NRT	NRT	NRT	NRT	NRT

State Assessment Test Administered

♦ Mathematics

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	HSCT	HSCT	HSCT	HSCT	HSCT	HSCT	FCAT
Scoring	PF, SS	PF, SS	PF, SS	PF, SS	PF, SS	PF, SS	PL, SS
Grade	11	11	11	11	11	11	5, 8, 10
Type	CRT	CRT	CRT	CRT	CRT	CRT	CRT

♦ Science

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name							
Scoring							
Grade							
Type							

* SAT-8: Stanford Achievement Test - 8th Edition; SAT-9: Stanford Achievement Test - 9th Edition

* HSCT: High School Competacny Test; FCAT: Florida Comprehensive Assessment Test

PC: Percentile SN: Stanine PL: Performance Level

PF: Pass/Fail SS: Scaled Score OT: Other

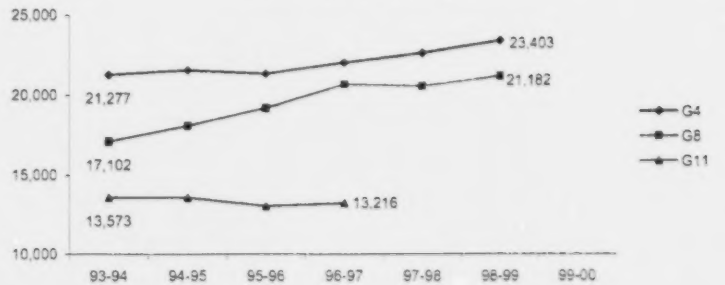
NRT: Norm-Referenced Test CRT: Criterion-Referenced Test

District Assessment Test-Taker Trends - Stanford Achievement Test/E

♦ Mathematics

# of Test-takers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4	21,277	21,560	21,337	22,052	22,652	23,403	
Grade 8	17,102	18,085	19,198	20,673	20,577	21,126	
Grade 11	13,573	13,578	13,040	13,216			

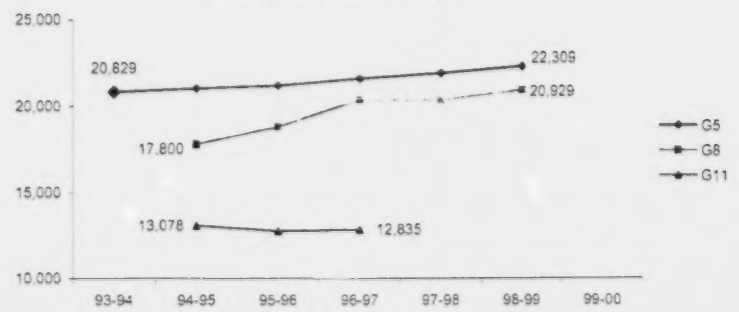
Total number of students taking test



♦ Science

# of Test-takers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Grade 5	20,829	21,034	21,188	21,611	21,935	22,309	
Grade 8		17,800	18,813	20,358	20,369	20,929	
Grade 11		13,078	12,752	12,835			

Total number of students taking test

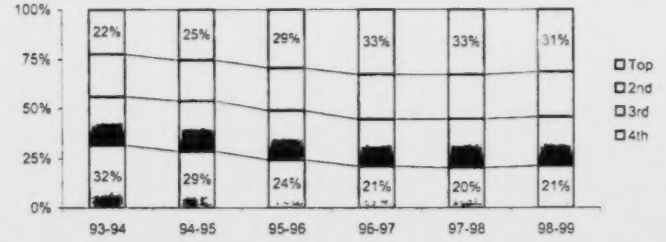


Miami-Dade USI

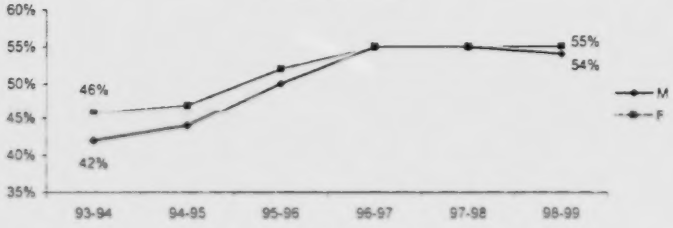
District Assessment Test Results Trends - SAT/8 Mathematics

♦ **Grade 4**

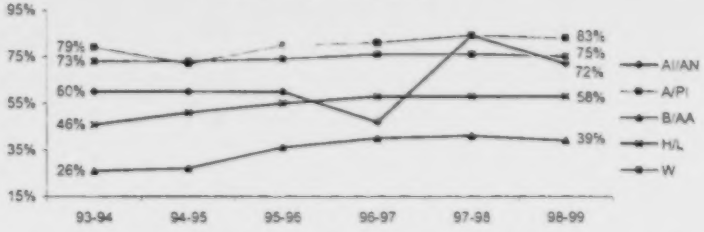
Quartile	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Top	22%	25%	29%	33%	33%	31%	
2nd	22%	21%	22%	23%	22%	23%	
3rd	24%	25%	25%	24%	25%	25%	
4th	32%	29%	24%	21%	20%	21%	
Total num of students	21,277	21,560	21,337	22,052	22,652	23,403	



% Passing by Gender



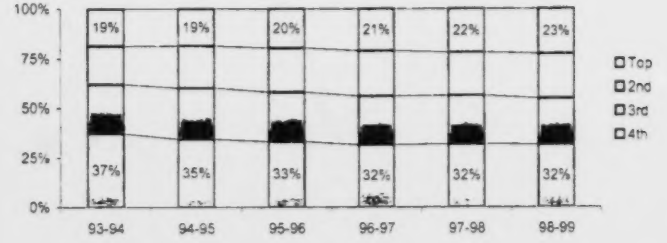
% Passing by Race/Ethnicity



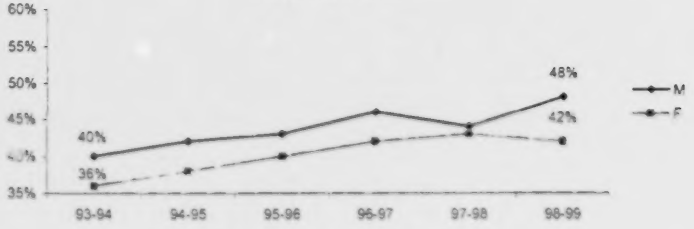
District Assessment Test Results Trends - SAT/8 Mathematics

♦ **Grade 8**

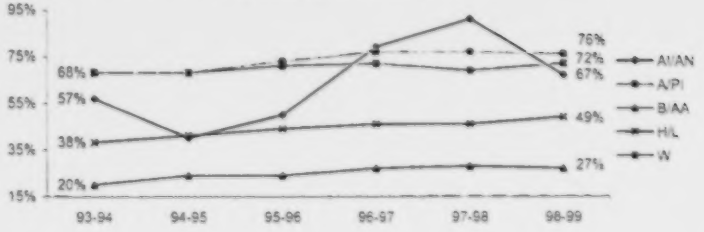
Quartile	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Top	19%	19%	20%	21%	22%	23%	
2nd	20%	22%	22%	23%	22%	23%	
3rd	25%	25%	25%	24%	24%	23%	
4th	37%	35%	33%	32%	32%	32%	
Total num of students	17,102	18,085	19,198	20,673	20,577	21,126	



% Passing by Gender



% Passing by Race/Ethnicity

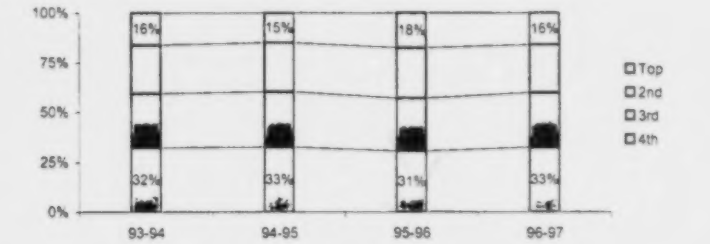


AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White
% Passing defined as Top Quartile + 2nd Quartile

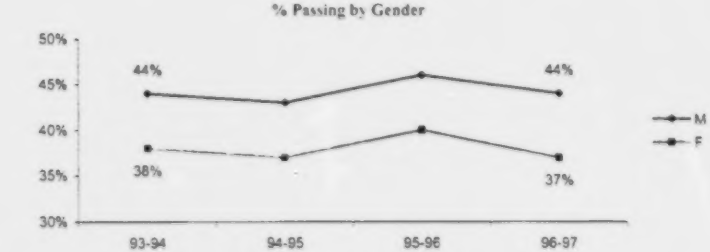
District Assessment Test Results Trends - SAT/8 Mathematics

♦ **Grade 11**

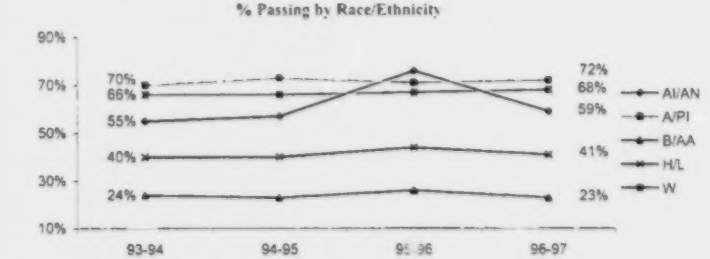
Quartile	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Top	16%	15%	18%	16%			
2nd	24%	25%	25%	24%			
3rd	27%	28%	26%	27%			
4th	32%	33%	31%	33%			
Total num of students	13,573	13,578	13,040	13,216			



% Passing by Gender



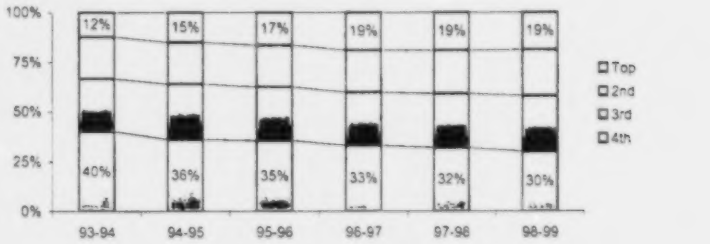
% Passing by Race/Ethnicity



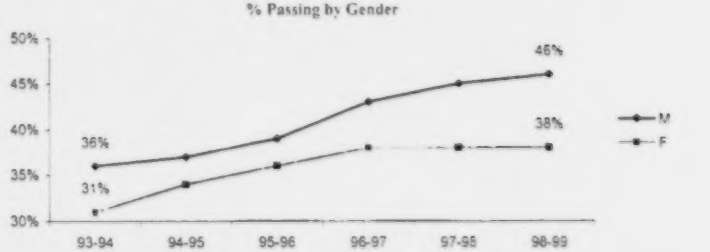
District Assessment Test Results Trends - SAT/8 Science

♦ **Grade 5**

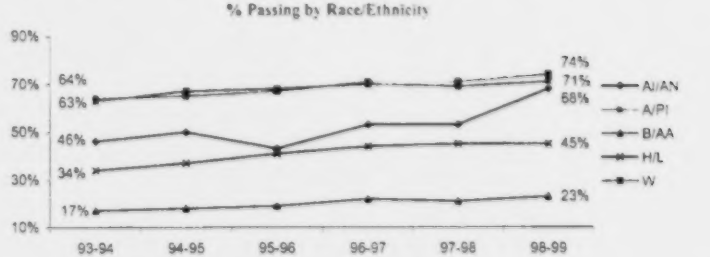
Quartile	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Top	12%	15%	17%	19%	19%	19%	
2nd	21%	21%	21%	21%	22%	23%	
3rd	27%	28%	27%	27%	27%	28%	
4th	40%	36%	35%	33%	32%	30%	
Total num of students	20,829	21,034	21,188	21,611	21,935	22,309	



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White
% Passing defined as Top Quartile + 2nd Quartile

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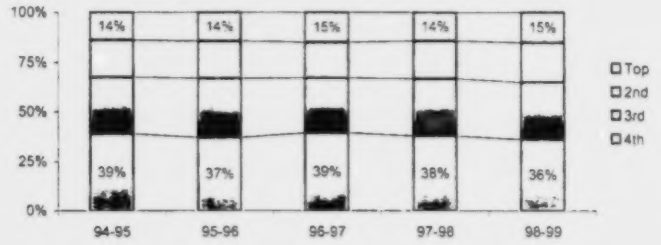
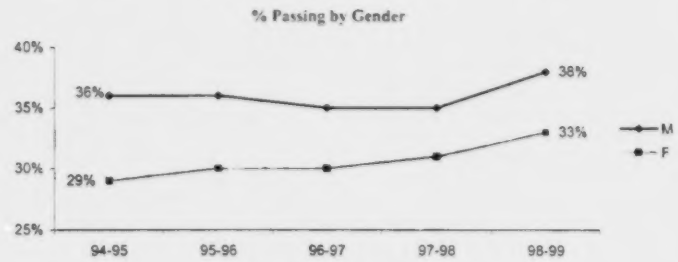
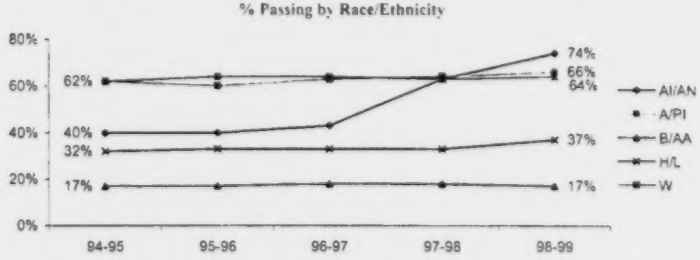
District Assessment Test Results Trends - SAT/8 Science

♦ **Grade 8**

Quartile	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Top		14%	14%	15%	14%	15%	
2nd		19%	19%	18%	19%	20%	
3rd		29%	30%	28%	29%	29%	
4th		39%	37%	39%	38%	36%	
Total num of students		17,800	18,813	20,358	20,369	20,929	



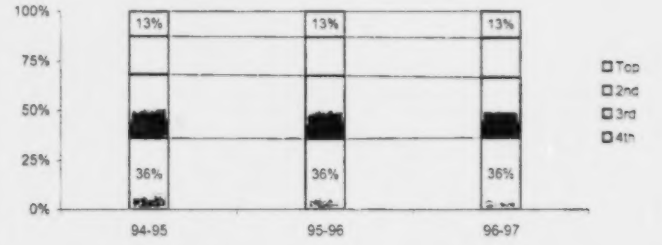


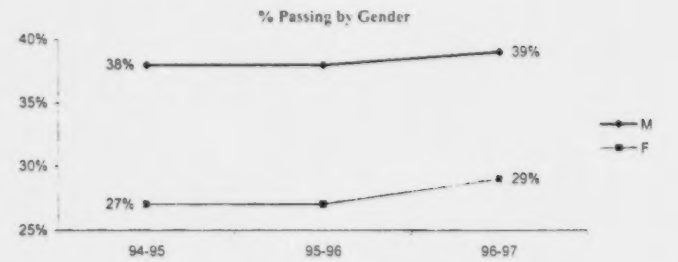


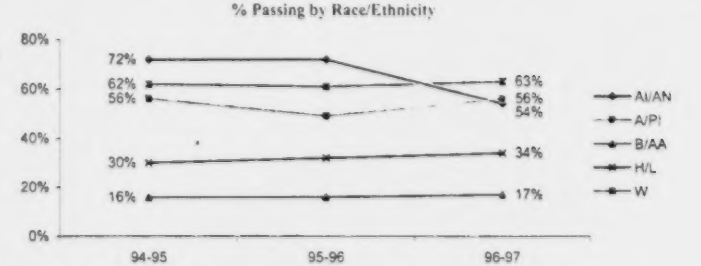
District Assessment Test Results Trends - SAT/8 Science

♦ **Grade 11**

Quartile	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Top		13%	13%	13%			
2nd		19%	19%	20%			
3rd		32%	32%	31%			
4th		36%	36%	36%			
Total num of students		13,078	12,752	12,835			







AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as Top Quartile + 2nd Quartile

AP Mathematics Test Result Trends

♦ AP Mathematics - Total Number of Tests Taken

		94	95	96	97	98	99	00
Total num of 11th & 12th students		36,535	36,415	36,122	34,484	34,098	36,148	39,128
Tests Taken	Calc. AB	432	633	652	593	631	658	689
	Calc. BC	73	123	128	123	160	204	206
	Statistics	0	0	0	145	258	348	362
	Total	**505**	**756**	**780**	**861**	**1,049**	**1,210**	**1,257**
Num of tests taken/1,000 stu.		13.8	20.8	21.6	25.0	30.8	33.5	32.1
Scoring Above 3		256	353	339	437	556	623	676
Num of Above 3/ 1,000 students		7.0	9.7	9.4	12.7	16.3	17.2	17.3

♦ AP Mathematics - Number of Tests Taken By Gender Per 1,000 Students

		94	95	96	97	98	99	00
Tests Taken per 1,000	Male	13.9	21.8	22.8	26.7	31.3	33.0	33.5
	Female	13.8	19.8	20.4	23.3	30.2	33.9	30.9

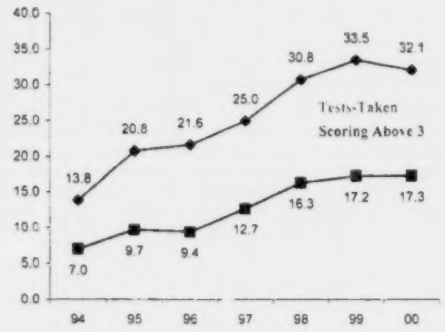
♦ AP Mathematics - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [*1]

	94	95	96	97	98	99	00
AI/AN	166.7	0.0	0.0	50.0	260.9	71.4	55.6
A/PI	80.8	133.9	123.0	161.5	182.0	176.5	239.7
B/AA	7.4	9.0	10.4	10.5	11.4	9.2	9.6
H/L	11.0	18.2	17.5	19.8	26.3	31.1	29.3
W	21.7	32.3	33.4	44.4	48.3	54.6	55.0

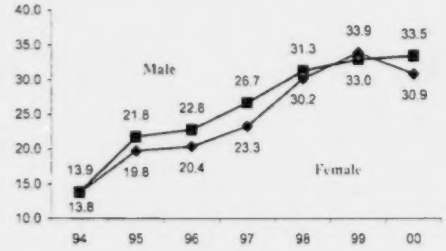
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White

♦ AP Mathematics (Calculus AB, Calculus BC, & Statistics)

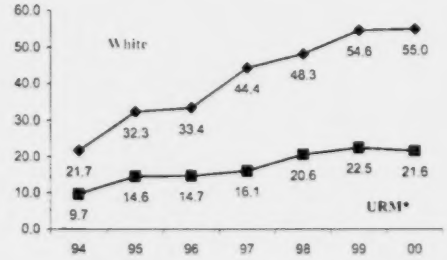
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender

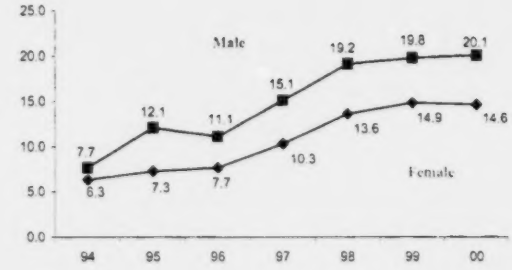


Number of tests taken per 1,000 students by Race/Ethnicity



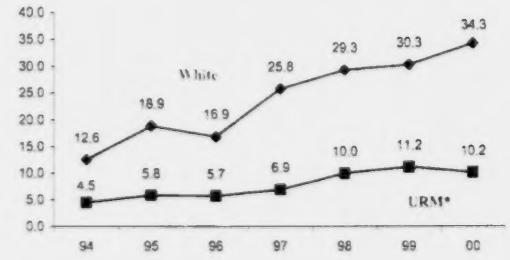
♦ AP Mathematics - Number of Students Scoring Above 3 By Gender per 1,000 Students

		94	95	96	97	98	99	00
Score Above 3 per 1,000	Male	7.7	12.1	11.1	15.1	19.2	19.8	20.1
	Female	6.3	7.3	7.7	10.3	13.6	14.9	14.6



♦ AP Mathematics - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [*1]

	94	95	96	97	98	99	00
AI/AN	83.3	0.0	0.0	50.0	87.0	0.0	55.6
A/PI	43.2	75.0	62.3	104.8	102.3	109.5	169.8
B/AA	1.6	1.6	2.0	2.3	3.0	4.3	3.1
H/L	6.3	8.5	8.0	10.0	14.5	15.6	14.7
W	12.6	18.9	16.9	25.8	29.3	30.3	34.3



*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

Miami-Dade USI

AP Science Test Result Trends

♦ AP Science - Total Number of Tests Taken

		94	95	96	97	98	99	00
Total num of 11th & 12th students		36,535	36,415	36,122	34,484	34,098	36,148	39,128
Tests Taken	Biology	175	398	411	401	487	440	516
	Chem.	157	271	326	361	351	375	334
	Enviro. Sci.	0	0	0	0	157	241	334
	Physics B	62	273	257	167	143	132	121
	Ph. C Mech.	61	107	88	97	105	151	135
	Ph. C Elec.	18	23	31	25	22	30	19
	Total	**473**	**1,072**	**1,113**	**1,051**	**1,265**	**1,369**	**1,459**
Num of tests taken/1,000 stu.		12.9	29.4	30.8	30.5	37.1	37.9	37.3
Scoring Above 3		164	318	375	353	410	509	522
Num of Above 3/ 1,000 students		4.5	8.7	10.4	10.2	12.0	14.1	13.3

♦ AP Science - Number of Tests Taken By Gender Per 1,000 Students

		94	95	96	97	98	99	00
Tests Taken per 1,000	Male	14.8	33.4	33.8	30.9	38.9	39.3	35.7
	Female	11.1	25.5	27.9	30.0	35.4	36.5	38.8

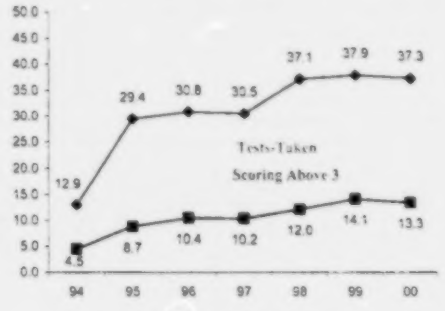
♦ AP Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [*1]

	94	95	96	97	98	99	00
AI/AN	83.3	0.0	0.0	50.0	304.3	500.0	111.1
A/PI	88.3	178.6	162.9	213.1	194.1	210.8	239.7
B/AA	17.9	38.1	39.3	33.4	42.2	42.0	43.7
H/L	8.9	22.9	24.2	27.3	32.8	32.4	31.5
W	22.0	52.9	52.6	45.9	57.2	65.3	73.4

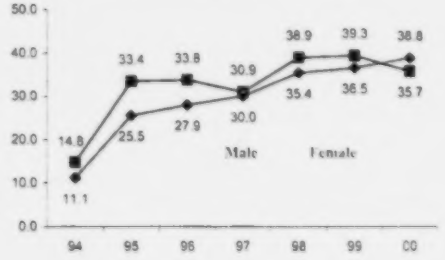
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White

♦ AP Science (Biology, Chemistry, Environ. Sci., Phy. B, Phy. C Mech., & Phy. C Elec.)

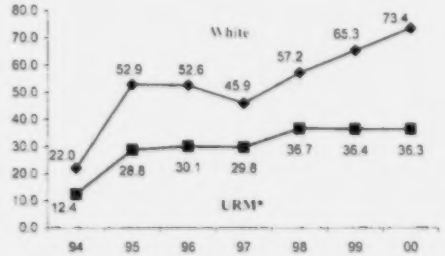
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender

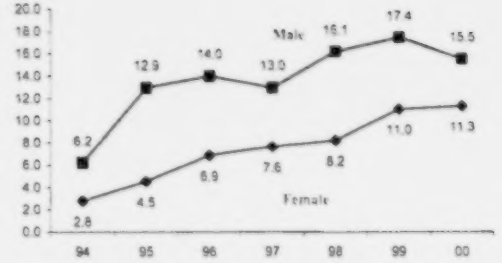


Number of tests taken per 1,000 students by Race/Ethnicity



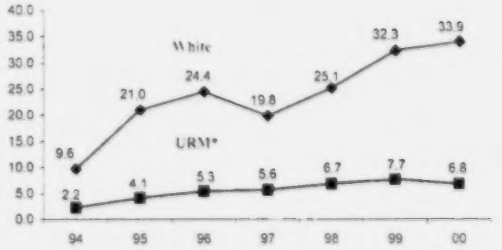
♦ AP Science - Number of Students Scoring Above 3 By Gender per 1,000 Students

		94	95	96	97	98	99	00
Score Above 3 per 1,000	Male	6.2	12.9	14.0	13.0	16.1	17.4	15.5
	Female	2.8	4.5	6.9	7.6	8.2	11.0	11.3



♦ AP Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [*1]

	94	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	87.0	357.1	0.0
A/PI	35.7	78.6	68.7	96.2	69.3	88.2	117.5
B/AA	1.1	1.3	1.9	1.7	2.7	1.6	1.6
H/L	2.9	5.9	7.6	8.3	9.3	11.3	10.0
W	9.6	21.0	24.4	19.8	25.1	32.3	33.9



*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

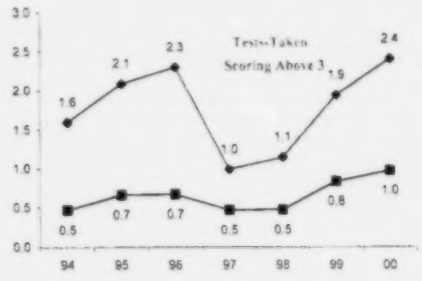
AP Computer Science Test Result Trends

• AP Computer Science (Computer Science A & AB)

• AP Computer Science - Total Number of Tests Taken

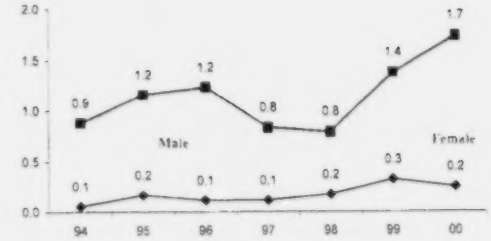
		94	95	96	97	98	99	00
Total num of 11th & 12th students		36,535	36,415	36,122	34,484	34,098	36,148	39,128
Tests Taken	Comp. Sci A	50	64	64	30	37	51	66
	Comp. Sci. AB	8	12	19	4	2	19	28
	Total	**58**	**76**	**83**	**34**	**39**	**70**	**94**
Num of tests taken/1,000 stu.		1.6	2.1	2.3	1.0	1.1	1.9	2.4
Scoring Above 3		17	24	24	16	16	30	38
Num of Above 3/ 1,000 students		0.5	0.7	0.7	0.5	0.5	0.8	1.0

Number of tests taken and scoring above 3 per 1,000 students



• AP Computer Science - Number of Students Scoring Above 3 by Gender per 1,000 Students

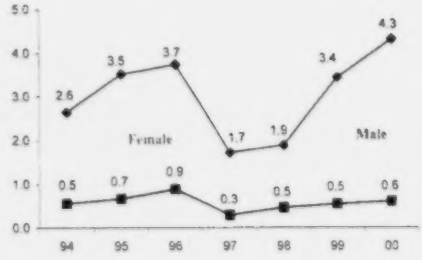
		94	95	96	97	98	99	00
Score Above 3 per 1,000	Male	0.9	1.2	1.2	0.8	0.8	1.4	1.7
	Female	0.1	0.2	0.1	0.1	0.2	0.3	0.2



• AP Computer Science - Number of Tests Taken By Gender Per 1,000 Students

		94	95	96	97	98	99	00
Tests Taken per 1,000	Male	2.6	3.5	3.7	1.7	1.9	3.4	4.3
	Female	0.5	0.7	0.9	0.3	0.5	0.5	0.6

Number of tests taken per 1,000 students by Gender



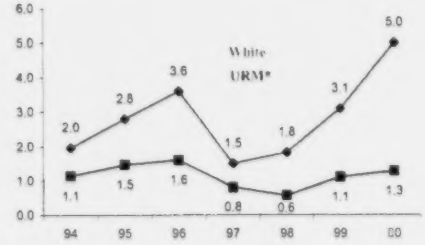
• AP Computer Science - Number of Students Scoring Above 3 by Race/Ethnicity per 1,000 Students [*1]

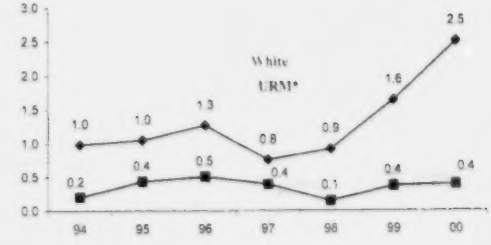
	94	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A/PI	3.8	7.1	1.6	1.7	8.7	11.4	12.7
B/AA	0.0	0.1	0.0	0.0	0.0	0.0	0.0
H/L	0.3	0.7	0.8	0.6	0.2	0.6	0.6
W	1.0	1.0	1.3	0.8	0.9	1.6	2.5

• AP Computer Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [*1]

	94	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A/PI	13.2	16.1	11.2	5.2	13.9	19.6	27.0
B/AA	0.7	0.9	0.4	0.2	0.0	0.2	0.2
H/L	1.4	1.8	2.4	1.2	0.9	1.7	2.0
W	2.0	2.8	3.6	1.5	1.8	3.1	5.0

Number of tests taken per 1,000 students by Race/Ethnicity





AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African Amencan H/L: Hispanic or Latino W: White
[*1] "Other" category not presented

*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

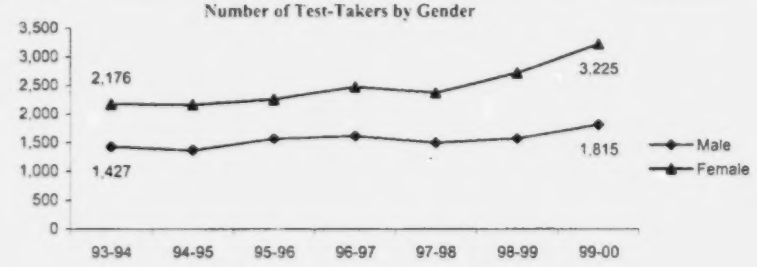
Miami-Dade USI

ACT Test-Takers

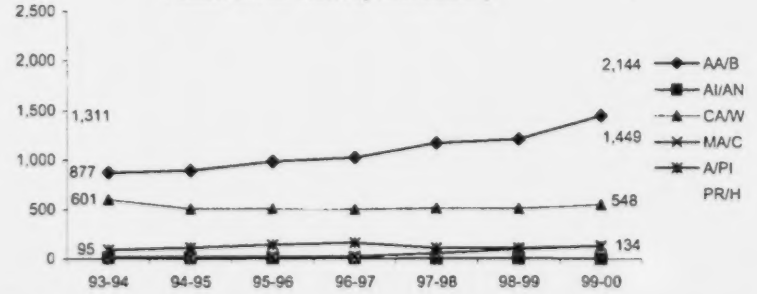
♦ **Number of Test-Takers**

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		16,770	16,089	15,748	15,948	15,080	16,316	17,247
Test-Takers		3,603	3,529	3,824	4,094	3,870	4,304	5,057
Num of Test-Takers/1,000 Stu		215	219	243	257	257	264	293
Gender	Male	1,427	1,366	1,566	1,616	1,497	1,570	1,815
	Female	2,176	2,163	2,258	2,478	2,373	2,720	3,225
Race/Ethnicity	AA/B	877	899	989	1,029	1,177	1,216	1,449
	AI/AN	12	14	12	12	8	7	3
	CA/W	601	511	510	505	515	512	548
	MA/C	21	25	28	27	62	103	134
	A/PI	95	117	147	166	113	114	128
	PR/H	1,311	1,293	1,454	1,585	1,473	1,822	2,144

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity

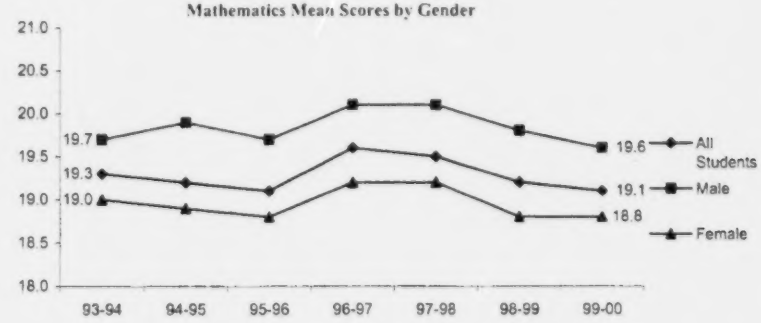


ACT Mathematics Scores

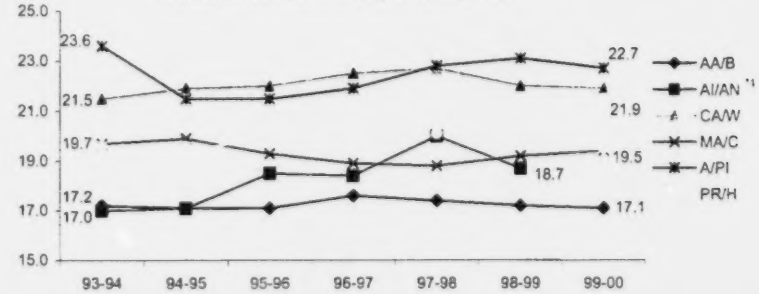
♦ **Mathematics - Mean Score Trends**

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		19.3	19.2	19.1	19.6	19.5	19.2	19.1
Gender	Male	19.7	19.9	19.7	20.1	20.1	19.8	19.6
	Female	19.0	18.9	18.8	19.2	19.2	18.8	18.8
Race/Ethnicity	AA/B	17.2	17.1	17.1	17.6	17.4	17.2	17.1
	AI/AN *1	17.0	17.1	18.5	18.4	20.0	18.7	-
	CA/W	21.5	21.9	22.0	22.5	22.7	22.0	21.9
	MA/C	19.7	19.9	19.3	18.9	18.8	19.2	19.4
	A/PI	23.6	21.5	21.5	21.9	22.8	23.1	22.7
	PR/H	19.6	19.6	19.7	20.1	20.1	19.6	19.5

Mathematics Mean Scores by Gender



Mathematics Mean Scores by Race/Ethnicity



AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.

*1 Mean score not presented for sample size less than 5

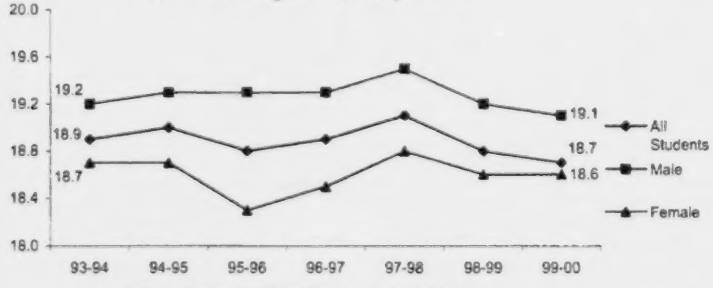
Miami-Dade USI

ACT Science Reasoning Scores

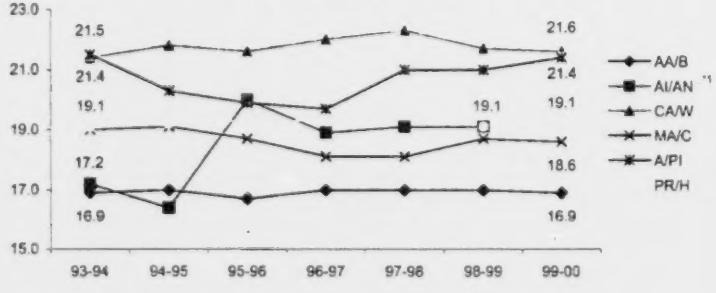
♦ **Science Reasoning - Mean Score Trends**

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		18.9	19.0	18.8	18.9	19.1	18.8	18.7
Gender	Male	19.2	19.3	19.3	19.3	19.5	19.2	19.1
	Female	18.7	18.7	18.3	18.5	18.8	18.6	18.6
Race/Ethnicity	AA/B	16.9	17.0	16.7	17.0	17.0	17.0	16.9
	AI/AN [*1]	17.2	16.4	20.0	18.9	19.1	19.1	-
	CA/W	21.4	21.8	21.6	22.0	22.3	21.7	21.6
	MA/C	19.0	19.1	18.7	18.1	18.1	18.7	18.6
	A/PI	21.5	20.3	19.9	19.7	21.0	21.0	21.4
	PR/H	19.1	19.2	19.3	19.3	19.5	19.1	19.1

Science Reasoning Mean Scores by Gender



Science Reasoning Mean Scores by Race/Ethnicity



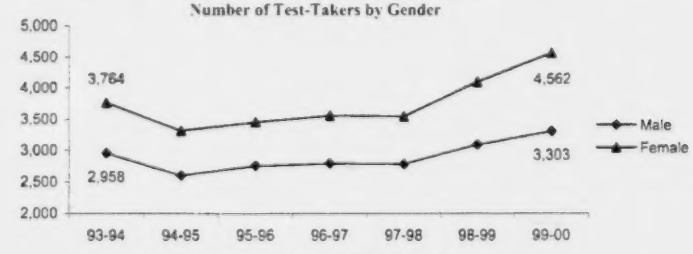
AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White
MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.
[*1] Mean score not presented for sample size less than 5

SAT Test-Takers

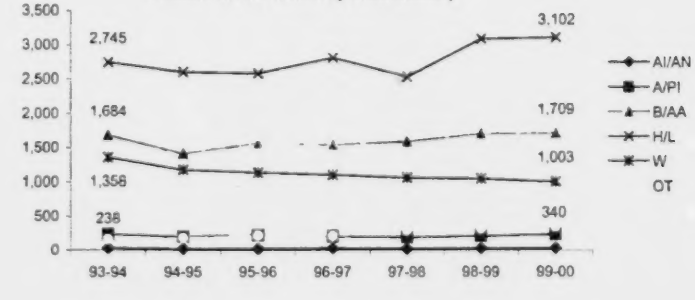
♦ **Number of Test-Takers**

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		16,770	16,089	15,748	15,948	15,080	16,316	17,247
Test-Takers		6,722	5,919	6,208	6,355	6,334	7,189	7,865
Num of Test-Takers/1,000 Stu		401	368	394	398	420	441	456
Gender	Male	2,958	2,604	2,754	2,796	2,787	3,091	3,303
	Female	3,764	3,315	3,454	3,559	3,547	4,098	4,562
Race/Ethnicity	AI/AN	32	20	22	27	20	24	23
	A/PI	238	200	221	206	192	210	230
	B/AA	1,684	1,411	1,562	1,541	1,589	1,698	1,709
	H/L	2,745	2,602	2,587	2,809	2,535	3,084	3,102
	W	1,358	1,177	1,140	1,107	1,061	1,045	1,003
	OT	165	180	217	211	291	314	340

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American
H/L: Hispanic or Latino W: White OT: Others

Miami-Dade USI

SAT Mathematics Scores

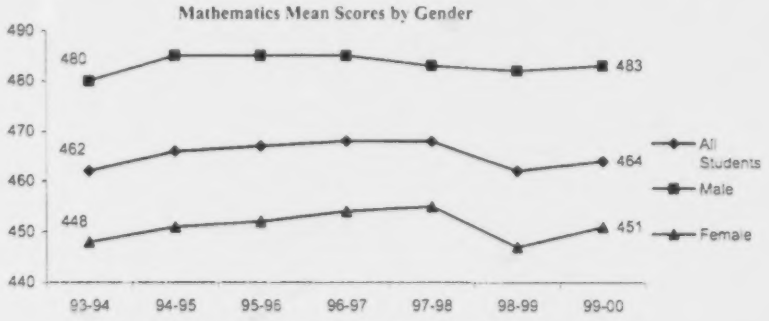
♦ Mathematics - Mean Score Trends

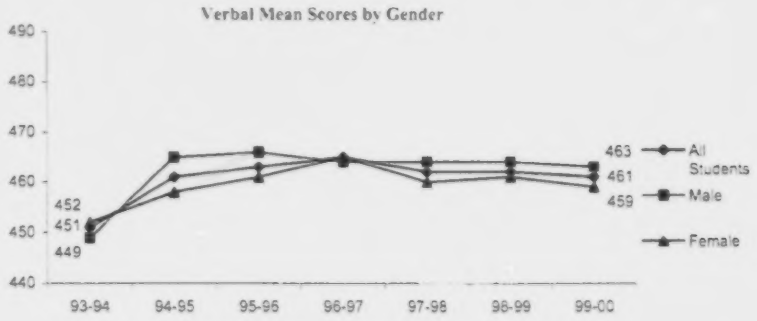
		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		462	466	467	468	468	462	464
Gender	Male	480	485	485	485	483	482	483
	Female	448	451	452	454	455	447	451
Race/Ethnicity	AI/AN	427	418	482	465	517	440	430
	A/PI	504	534	538	531	533	528	537
	B/AA	411	417	418	422	419	411	414
	H/L	467	467	468	469	472	466	472
	W	519	520	526	527	527	522	520
	OT	462	453	454	462	467	416	459

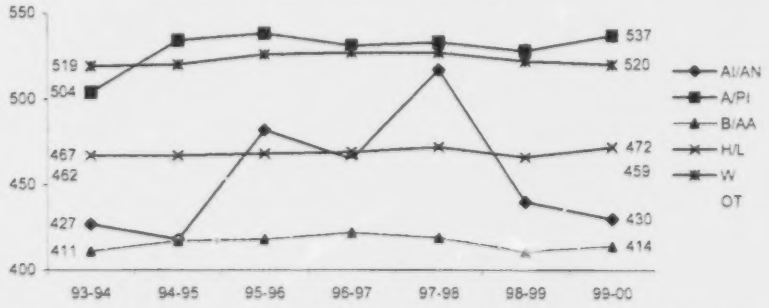
SAT Verbal Scores

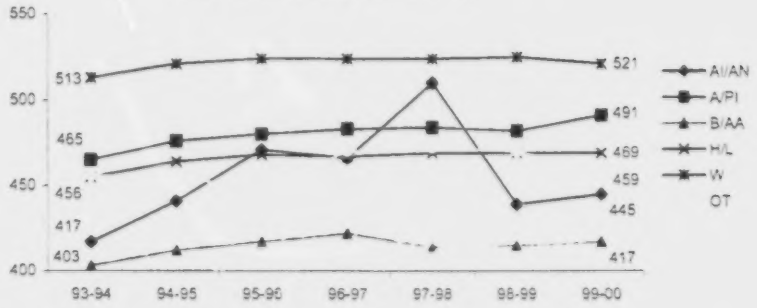
♦ Verbal - Mean Score Trends

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		451	461	463	465	462	462	461
Gender	Male	449	465	466	464	464	464	463
	Female	452	458	461	465	460	461	459
Race/Ethnicity	AI/AN	417	441	471	466	510	439	445
	A/PI	465	476	480	483	484	482	491
	B/AA	403	412	417	422	414	415	417
	H/L	455	464	468	467	469	469	469
	W	513	521	524	524	524	525	521
	OT	456	455	448	470	472	470	459









AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

Miami-Dade USI

Cohort/Scale-Up Approach

	94-95	95-96	96-97	97-98	98-99	99-00
Number of District Schools*:	*284*	*284*	*284*	*284*	284	305**
USI Schools**:	98	183	282	284	284	305
% Schools:	35%	64%	99%	100%	100%	100%

*98-99 Core Data Elements, 2000 Report. ** K-1 2001

Primary Decision Making Body

Standards Curriculum	District
Curriculum/TextBook Adoption	District
Student Assessment	State
Professional Development	School
Resources	District
Teacher Hiring	School
Teacher Contracts	District
Certification & Re-certification	State
Graduation Requirements	District
School-Based Management?	Yes

Policies Promoting Equal Access by All Students in High Quality Education

Student Tracking:
- Basic level courses in mathematics and science eliminated

Criteria for Entry into High Level Mathematics and Science Courses:
- All middle school students must pass mathematics and science each year in order to be promoted
- All students should pass Algebra I by G9

Availability of High Level Courses:
- Gate keeping courses of Algebra I and Earth/Space Science required of all students

Special Education and Bilingual Students:
- Bilingual teachers included in content professional development activities

Others:
- The SECME (Science, Engineering, Communications, Mathematics, Enhancement) program is in 83 schools and encourages students to take challenging high level courses.
- Schools must define student achievement goals in mathematics and science; principals held accountable

Policies Impacting the Enrollment of Students in Challenging Math and Science Courses

Attendance :
- A secondary student with 10 or more unexcused class absences in an annual course or 5 or more unexcused absences in a semester course is subject to failure

Guidance:
- Counselors have been involved in professional development inservices which focused on the need to encourage all students to enroll in high-level courses

Student Support Systems:
- Before and after school tutorial programs
- Summer immersion courses for K-G8 students
- Accelerated mathematics and science summer programs for G6-12
- Saturday student enhancement programs

Policies Relevant to Curriculum

Framework:
- Florida Sunshine State Standards

Curricula:

Curricula Materials:
- Connected Mathematics
- Mathematics in content
- EOA Earth Systems
- The Balanced Assignements
- Everyday Mathematics
- Science and Technology for Children (STC)

New Courses as a Result of USI:
- AP Environmental Science
- Honors Calculus and Honors Physics

Instructional Time:
- Flexible scheduling
- Block schedules
- Extended day schedule
- Extended year schedule

Others:
- School to Work programs required at all levels

Standards-based Curriculum and Instruction

Standards Adopted:
- Florida Sunshine State Standards

Primary Instructional Strategies:
- Use of calculators encouraged
- Kit-based science curriculum
- Integration of Math/Science
- Manipulatives used in the classroom
- Cooperative learning
- "Mathematics in Context" strategies/activities
- Emphasis on constructive teaching strategies
- Product based teaching
- Geometry Sketchpad software
- Use of technology
- Less emphasis on lecture

% of Students Experiencing Standards-based Mathematics Curricula:	E: 100% M: 100% H: 100%
% of Students Experiencing Standards-based Science Curricula:	E: 100% M: 100% H: 100%

E: Elementary School M: Middle School H: High School

Miami-Dade USI

Policies Relevant to Teacher Qualifications

Certification:	• State certification and re-certification policies • State teacher's examination
Requirement & Hiring Practices	• Teachers are recruited in fields where there are shortages such as Science and Mathematics • Miami-Dade USI partnered with the state university system in project "Florida Collaborative for Excellence in Teacher Preparation"
Professional Advancement & Leadership Training:	• Teacher Educational Center provides leadership training inservice programs • Advanced degree program at Florida State University for K-8 teachers in Math and Science
Contract Requirements:	• Contracts require satisfactory annual evaluations

Professional Development Policies and Practices

Time Required or Supported:	• Elementary school students released 1 hour early each week • Secondary school students released 2 hours early each month • Substitute days provided to teachers attending all USI workshops 3 or more days
Financial Resources Provided:	• 10 days substitute teacher coverage (at school's discretion) • Teacher stipends for Saturday professional development activities • Teacher "hourly" pay for professional development "after hours" • University and college tuition paid by district for teachers • Additional substitute days provided for all USI and Eisenhower workshops
Alignment to Student Standards:	
Measurement of Impact:	• Classroom visits • Teacher and student interviews • Assessment modeled after National Council of Teachers of Mathematics (NCTM) and National Science Education Standards
Other:	• Teacher leader meetings • All math and science activities coordinated/ approved by USI staff
Type and Amount Received by Average Math/Science Teacher:	• Feeder pattern professional development • Investigative "hands-on" kit • Content-based mathematics • Teaching strategies • Workshops • Professional Development sessions on using technology as a learning resource • Emphasize hands-on, inquiry based instruction • Developing Science Inquiry teaching
Evaluation Instruments:	• Individual teacher-classroom assessment including: profiles, interview, journals, written & oral testing, projects, and group activities
Professional Development Alignment to Content Standards Measures:	• CBC correlated to Florida Sunshine State standards
Teacher's Instructional Practices Evaluation:	• Classroom visits • Teacher and student interviews • Teacher Leader meetings
Impact on Student Achievement:	• Raising of Mathematics and Science scores on SAT for five years in a row. (Stanford Achievement Test)

Policies Relevant to Standards-based Assessments

Extent to Which Assessments are Aligned to District Standards and Curriculums:	
Methods stakeholders are informed of goals, objectives and accomplishments of assessment program:	• Series of workshops involving principals, selected math & science teachers, and parents to analyze and assess current status of math and science program

USI Leadership, Governance, and Management

Superintendent:	• Made math and science a priority for school improvement accountability • Active participant in PI/PD meetings • Executive committee member of USP Superintendent's coalition • Proposed policy changes to require Algebra by grade 9, Geometry by grade 10 and a science sequence of Earth-Space Science, Biology, Chemistry or Physical Science

Miami-Dade USI

USI Office:
- School site USI Teacher Consultants appointed
- Educational specialists employed
- USI and Division of Mathematics and Science combined into one division
- Coordination with school principals, feeder patterns and region offices

Community Key Personnel:
- Focus of government leaders on One Community One Goal work force development agenda
- Mathematics and Science emphasized for key industries

Partnerships

Other Key Initiatives:
- Eisenhower integration with Professional Development Programs
- School to Work

Community Stakeholders
- Miami Museum of Science- internet technical training for teachers and staff
- Everglades National Park Service- professional development for teachers and an interactive ecology program for students
- Zoological Society for South Florida- interactive hands-on science program for students

Higher Education:
- University of Miami
- University of Miami's Rosentiel School of Marine and Atmospheric Science
- Florida's International University

Other Partnerships:
- Southeastern Consortium for Minorities in Engineering (SECME)
- Urban League

Policy Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	• 3 years mathematics required for graduation • 3 years science required for graduation • Remedial courses offered • Curriculum not standards-based • Students were assigned to certain Math/Science courses based on stanine scores on the Stanford Achievement Test (SAT)
1994-95	• Algebra I made a graduation requirement • Full year of science required for all 6th graders • Basic level courses in mathematics were eliminated per state frameworks • Basic level classes in science were eliminated per district mandate
1995-96	• Schools must include mathematics and science objectives in their School Improvement Plan • The use of test scores to determine enrollment in higher level courses no longer permitted • Textbook adoption process limited to a select number of high quality, standards-based selections
1996-97	• All middle school students must pass math and science course each year in order to be promoted • All students should have successfully completed Algebra I, by the end of grade 9
1997-98	• Mathematics Student Performance Standards was established to identify students who fail to meet performance indicators. A Student Performance Plan (SPP) must be developed for student who performed "Below Proficiency" and that student must be provided • Schools are required to conduct parent conferences for students identified as not meeting the district performance standards in mathematics
1998-99	• No changes reported
1999-00	• Algebra I and Earth/Space science are required for all students. • All middle school students must pass mathematics and science courses each year to be promoted.
2000-01	• Biology and Chemistry or Physical Science required for graduation. • Earth/Space Science replaces Physical Science as the required 9th grade science course. • Two year Algebra I course eliminated • Geometry required for graduation, enrollment by grade 10.

Curriculum and Instruction Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	•Traditional instruction and assessment •No frameworks or standards defined
1994-95	•Development of curriculum frameworks- Competency Based Curriculum (CBC) •State level frameworks mandated: Sunshine State Standards
1995-96	•All elementary schools implementing National Council of Teachers of Mathematics (NCTM) standards-based curriculum •All middle schools implementing standards-based "Comprehensive Science" curriculum
1996-97	•Math and Science Competency Based Curriculum (CBC) revised to align with content & pedagogy of National Science Educational Standards •Math and science CBC revised to include new Florida Sunshine State Standards
1997-98	•Focus of instruction is implementation of standards, with textbooks used as tools to achieve standards
1998-99	•Math and Science CBC revised to include new Florida Grade Level Expectations (GLE); Grades K-8, based on the Sunshine State Standards

Professional Development Policy and Program Changes to Support Teachers During USI Implementation

School Year	Policy Implemented
Before USI	• Most elementary school teachers had only one math or science content course in pre-service program. Many of the teachers did not feel comfortable with course content (very little to no inservice education for elementary science).
1994-95	• Essential Components for Effective Mathematics, Science, and Instructional Technology Programs for Dade County Public Schools- models for curriculum • Emphasis on standards-based curriculum
1995-96	• All programs based on Competency Based Curriculum (CBC) developed in SY 1994-95
1996-97	• Direct Eisenhower funds to feeder patterns for collaborative professional development • Elementary students released 1 hour early each week • Secondary students released 1 hour early each month (The early releases allow professional development sessions during regular school hours) • Florida State University Master's or Specialist's Degree in Math/Science Education for elementary and middle school teachers
1997-98	• Principal Institute Implemented
1998-99	• Increased participation of paraprofessionals in professional development programs • Professional Development will be integrated with Program /School Improvement Plans
1999-00	•ESE & Bilingual teachers receive high content professional development activities. Teaching strategies for use with ESE & Bilingual students have been incorporated into the training. All Title VI grants require participation. •Counselors have been involved in professional development inservices which focused on the need to encourage all students to enroll in high level courses

Standards-based Assessment System Changes During USI Implementation

School Year	Policy Implemented
Before USI	•Local assessment is Stanford Achievement Tests, G2-12
1994-95	•No changes reported
1995-96	•Classroom Assessment Items based on Competency Based Curriculum (CBC)
1996-97	•High School Competency Test (HSCT)
1997-98	•Florida Comprehensive Achievement Test (FCAT)
1998-99	•Creation of a Mathematics Assessment Instrument (MAI), K-G4, an additional assessment tool for pupil progression •Pupil Progression Plan- attainment of grade level proficiency in math- K-G9

School District Progress Report

March 2002

Urban School Key Indicators of Science and Mathematics Education: 2001

BEST COPY AVAILABLE

New York USI

Program Data

USI Project Title :	New York City USI
Cohort:	93 (Sept. 94 - Aug. 00)
USI Web Site:	http://205.232.151.90/guest/usi/usi.html

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Brooklyn, NY 11201

♦ USI Schools Math & Sci. Teachers and Students

99-00	Schools	Teachers	Students
K-G5 (Elementary)	687	32,839	573,391
G6-8 (Middle)	218	3,060	204,890
G9-12 (High)	223	4,908	302,686
Total	1,128	40,807	1,080,967

Project Summary

The New York City Urban Systemic Initiative (NYC USI) is a collaboration among the Board of Education of the Ci of New York, The City University of New York, and the National Science Foundation. The program works with the 32 community school districts, the 6 high school superintendencies, and the 2 central districts to improve the mathematics and science achievement of all students. To achieve this goal, NYC USI helps school districts identify and utilize those curricula and professional development programs that are based on the best current knowledge about teaching and learning and have undergone a rigorous research and development process; develops partnerships with all stakeholders in support of standards-based mathematics and science instruction for all students; and provides professional development to sustain implementation of standards-based curricula.

Project Goals

To assist the school system in identifying and adopting policies that support high-level science and mathematics instruction for all students and to build system capacity to undertake the needed reforms in these curricular areas. Given the decentralized structure of the New York City school system, it is necessary for the policy reform at the system level to be complemented by reformed district policies that address instructional paradigms, assessment, and professional development.

To work with all participants to forge a common vision of mathematics, science, and technology teaching and learning, engage in professional development that enhances the capacity of participants to undertake the new programs and build a policy base to sustain the programs

Selected School Indicators (District Average)

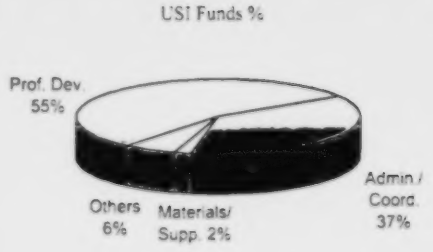
	93-94	99-00	Change
%Special Ed.	7.4%	7.6%	+0.2 PP
%LEP	16.8%	14.8%	-2.0 PP
%FRL	64.3%	68.4%	+4.1 PP
%Daily Ave. Atten.	84.6%	88.1%	+3.5 PP
%Average Retained	3.1%	8.9%	+5.8 PP
%Drop-Out	18.7%	19.3%	+0.6 PP
%Mobility	27.6%	20.5%	-7.1 PP
Per Pupil Cost ($)	-	$9,573	-
Num of Students Per Computer	-	8	-
% Classrooms Internet Access	-	20%	-
Average Class Size	-	25	-

(-) Data Missing

PP: Percentage Points

District and USI Fund Utilization (SY 1999-00)

	District	USI
Prof. Dev.	66%	55%
Admin./Coord.	10%	37%
Materials/Supp.	2%	2%
Others	22%	6%
Total	100%	100%



New York USI

Student Demographics (SY 1999-00)

District Total:	1,099,437	
USI Schools:	1,080,967	98%

♦ Race/Ethnicity

	93-94	99-00	%	% Change
Ame. Ind./Ala. Nat.	3,079	4,436	0.4%	+44.1%
Asian/P. Islander	90,479	124,397	11.3%	+37.5%
Black	377,240	386,915	35.2%	+2.6%
Hispanic	367,309	414,769	37.7%	+12.9%
White	177,649	168,920	15.4%	-4.9%
Other	•	•	•	•
Total	1,015,756	1,099,437		+8.2%
URM Total	747,628	806,120	73.3%	+7.8%

URM: Underrepresented Minority students.

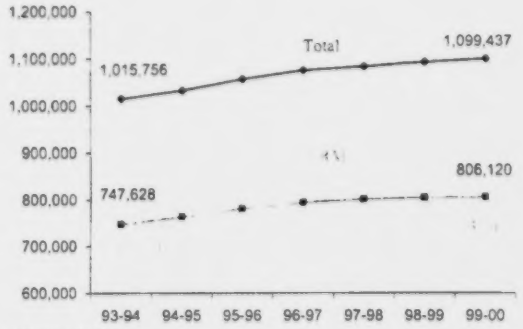
♦ Gender

Male	520,647	564,101	51.3%	+8.3%
Female	495,109	535,336	48.7%	+8.1%

♦ Grade

K-G5	453,428	516,017	46.9%	+13.8%
G6-8	201,904	211,384	19.2%	+4.7%
G9-12	273,989	279,197	25.4%	+1.9%
Ungraded	86,435	92,839	8.4%	+7.4%

♦ District-Wide Student Demographic Trends



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12th Grade Graduates

	93-94	98-99	Change
Total 12th Grade	36,812	38,356	4%
Earned a Diploma	•	•	•
% Earned Diploma	•	•	•

% Earned Diploma

College Entrance

	93-94	98-99	Change
2 Yr College	•	•	•
4 Yr College	•	•	•
Other Post-Secon.	•	•	•
Total C. E.	•	•	•
% C. E./Earned Dip.	•	•	•

% College Entrance

High School Graduation Requirements SY 99-00

- Mathematics
  - 3 years, Completion of Algebra I by 9th grade, Geometry by 10th grade (effective in 2000-2001)
- Science
  - 3 years, Completion of Earth Sci. by 9th grade, Biology by 10th grade Completion of Chemistry or Physical Sci. by 11th grade (effective in 2000-2001)

PP: Percentage Points

Math and Science Teachers & Certification

♦ Mathematics (G6-12)

		93-94	99-00	Change
G6-8	Teachers	1,905	1,991	+5%
	Certified	1,575	909	-42%
	% Cert.	83%	46%	-37 PP
G9-12	Teachers	2,373	2,619	+10%
	Certified	2,025	1,959	-3%
	% Cert.	85%	75%	-10 PP
Total	Teachers	4,278	4,610	+8%
	Certified	3,600	2,868	-20%
	% Cert.	84%	62%	-22 PP

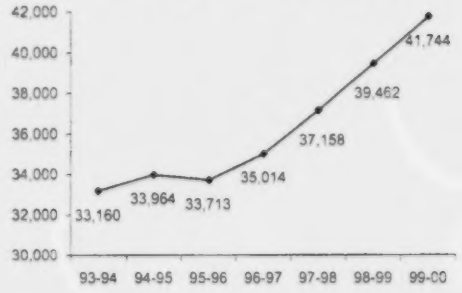
♦ Science (G6-12)

		93-94	99-00	Change
G6-8	Teachers	1,528	1,774	+16%
	Certified	1,284	659	-49%
	% Cert.	84%	37%	-47 PP
G9-12	Teachers	1,970	2,521	+28%
	Certified	1,630	1,593	-2%
	% Cert.	83%	63%	-20 PP
Total	Teachers	3,498	4,295	+23%
	Certified	2,914	2,252	-23%
	% Cert.	83%	52%	-31 PP

♦ Math and Science (K-G5)

		93-94	99-00	Change
K-G5	Teachers	33,160	32,839	-1%

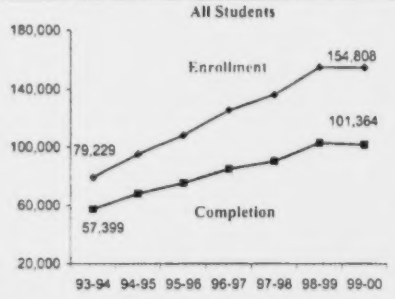
Total Number of Math and Sci. Teachers (K-G12)

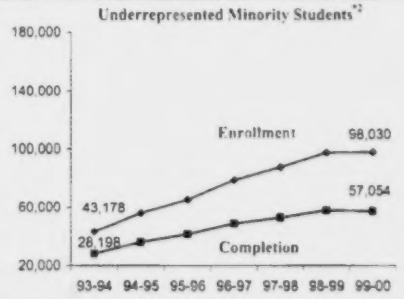


Mathematics and Science Enrollment &Completion Trends/ All vs. URM

G 9-12 Mathematics Gate-Keeping Courses (Algebra II, Geo., and Calculus)

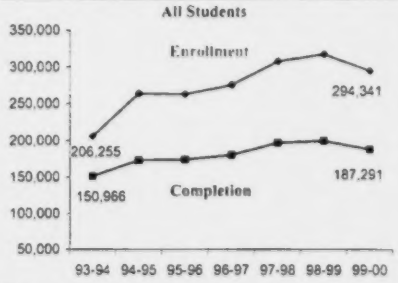
		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		273,989	275,995	281,092	286,324	286,035	281,796	279,197
All Students	Enrollment	79,229	95,271	107,996	125,306	136,031	154,954	154,808
	Completion *1	57,399	68,064	75,569	85,026	90,377	102,795	101,364
	% Enroll/ G9-12	29%	35%	38%	44%	48%	55%	55%
URM *2	Enrollment	43,178	55,830	65,099	78,896	87,540	97,597	98,030
	Completion *1	28,198	36,206	41,374	48,836	52,800	57,740	57,054
	% Enroll/ G9-12	22%	28%	32%	38%	43%	48%	50%

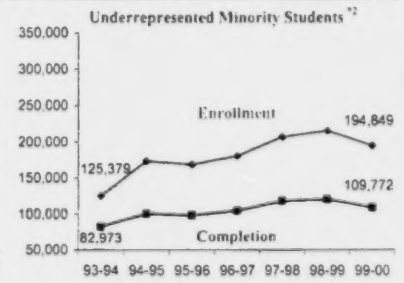




G 9-12 Science Gate-Keeping Courses (Biology 1, Chem. 1, and Physics 1)

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		273,989	275,995	281,092	286,324	286,035	281,796	279,197
All Students	Enrollment	206,255	263,639	262,888	275,467	307,637	317,298	294,341
	Completion *1	150,966	172,599	173,378	179,930	196,807	199,620	187,291
	% Enroll/ G9-12	75%	96%	94%	96%	108%	113%	105%
URM *2	Enrollment	125,379	173,225	168,716	180,444	206,884	215,656	194,849
	Completion *1	82,973	100,758	98,782	105,120	118,510	120,897	109,772
	% Enroll/ G9-12	64%	87%	83%	88%	101%	107%	98%





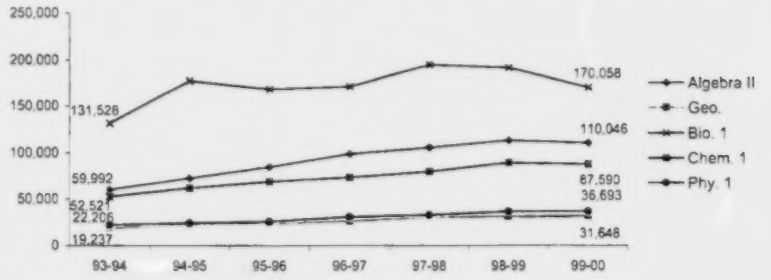
*1 Successful completion: grade 'D' or above.

*2 Underrepresented Minority students(American Indian/Alaskan Native, Black, and Hispanic)

Mathematics and Science Enrollment & Completion Trends By Subject

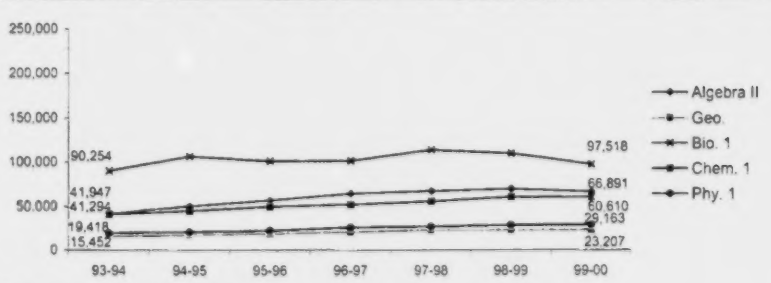
G 9-12 Course Enrollment (All Students)

	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
93-94	59,992	19,237	.	79,229	131,528	52,521	22,206	206,255
94-95	72,656	22,615	.	95,271	177,435	61,718	24,486	263,639
95-96	84,488	23,508	.	107,996	168,295	68,665	25,928	262,888
96-97	99,008	26,298	.	125,306	171,244	73,395	30,828	275,467
97-98	105,426	30,605	.	136,031	195,133	79,589	32,915	307,637
98-99	113,165	31,212	10,577	154,954	191,675	89,312	36,311	317,298
99-00	110,046	31,648	13,114	154,808	170,058	87,590	36,693	294,341



G 9-12 Course Completion *1 (All Students)

	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
93-94	41,947	15,452	.	57,399	90,254	41,294	19,418	150,966
94-95	50,273	17,791	.	68,064	106,677	45,054	20,868	172,599
95-96	57,034	18,535	.	75,569	101,243	49,868	22,267	173,378
96-97	64,593	20,433	.	85,026	101,596	52,190	26,144	179,930
97-98	67,279	23,098	.	90,377	113,868	56,039	26,900	196,807
98-99	69,772	23,042	9,981	102,795	109,849	60,976	28,795	199,620
99-00	66,891	23,207	11,266	101,364	97,518	60,610	29,163	187,291

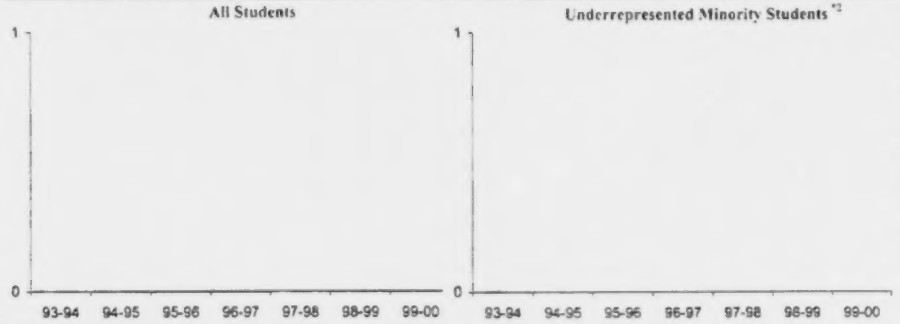


*3 Calculus not represented on graph.

(.) Data Missing

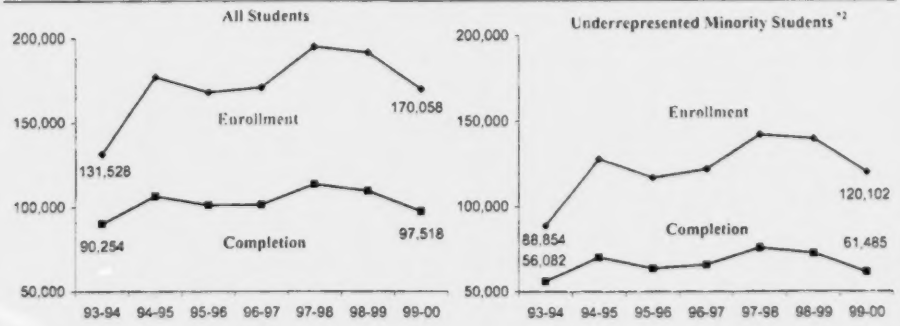
Algebra I or Above in 8th Grade Enrollment & Completion Trends/ All vs. URM

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 8 Population		64,809	65,845	67,320	67,729	67,341	67,558	67,695
All Students	Enrollment	0	0	0	0	0	0	0
	Completion *1	0	0	0	0	0	0	0
	% Enroll/ G8	0%	0%	0%	0%	0%	0%	0%
URM *2	Enrollment	0	0	0	0	0	0	0
	Completion *1	0	0	0	0	0	0	0
	% Enroll/ G8	0%	0%	0%	0%	0%	0%	0%



Biology Enrollment & Completion Trends/ All vs. URM

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students	Enrollment	131,528	177,435	168,295	171,244	195,133	191,675	170,058
	Completion *1	90,254	106,677	101,243	101,596	113,868	109,849	97,518
URM *2	Enrollment	88,854	127,907	117,080	121,990	142,044	139,599	120,102
	Completion *1	56,082	70,059	63,639	65,732	75,780	72,487	61,485



*1 Successful completion: grade 'D' or above.

*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Professional Development Participation of Teachers Teaching Mathematics and/or Science

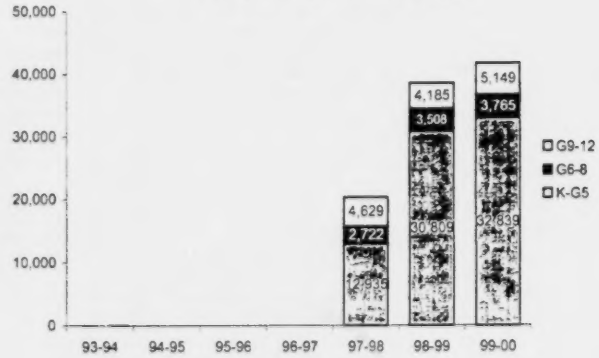
Total Number Teachers by Subject (G6-12)

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Mathematics	4,278	4,310	4,221	4,313	4,600	4,517	4,610
Science	3,498	3,573	3,584	3,775	5,213	4,136	4,295

Total Number of Teachers Participating in PD by Grade Level

Teachers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total K-G5	25,384	26,081	25,908	26,926	31,380	30,809	32,839
# K-G5 Participated	0	0	0	0	12,935	30,809	32,839
% K-G5 Participated	0%	0%	0%	0%	41%	100%	100%
Total G6-8	3,433	3,437	3,370	3,361	3,737	3,508	3,765
# G6-8 Participated	0	0	0	0	2,722	3,508	3,765
% G6-8 Participated	N/A	N/A	0%	0%	73%	100%	100%
Total G9-12	4,343	4,446	4,435	4,727	6,076	5,145	5,140
# G9-12 Participated	0	0	0	0	4,629	4,185	5,149
% G9-12 Participated	0%	0%	0%	0%	76%	81%	100%

Number of Teachers Participating in Professional Development by Grade Level Taught



Number of Teachers by Duration of Professional Development

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
1-59 Hours	0	0	0	0	17,498	35,885	39,106
60-119 Hours	0	0	0	0	2,181	2,108	2,034
120-200 Hours	0	0	0	0	531	476	479
More than 200 Hours	0	0	0	0	76	33	134

New York USI

District Assessment Test Administered

♦ Mathematics

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	CAT-5	CAT-5	CAT-5	CAT-5	CAT-5	TNM	NYSMT
Scoring	PC,SN,SS	PC,SN,SS	PC,SN,SS	PC,SN,SS	PC,SN,SS	PC,SN,SS	PL
Grade	G 3-8	G 3-8	G 3-8	G 3-8	G 3-8	G 3-8	G 3-7
Type	NRT	NRT	NRT	NRT	NRT	NRT	.

♦ Science

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	PAM	PAM	PAM	PAM	PAM	PAM	PAM
Scoring	PL	PL	PL	PL	PL	PL	PL
Grade	5,7	5,7	5,7	5,7	5,7	5,7	5,7
Type	PL	PL	PL	PL	PL	PL	PL

State Assessment Test Administered

♦ Mathematics

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	MRE	MRE	MRE	MRE	MRE	MRE	MRE
Scoring	PF	PF	PF	PF	PF	PF	PF
Grade	G 8-12	G 8-12	G 8-12	G 8-12	G 8-12	G 8-12	G 8-12
Type	CRT	CRT	CRT	CRT	CRT	CRT	CRT

♦ Science

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	ESPET/ BRE	ESPET/ BRE	ESPET/ BRE	ESPET/ BRE	ESPET/ BRE	ESPET/ BRE	ESPET/ BRE
Scoring	PF	PF	PF	PF	PF	PF	PF
Grade	G 4, 9-12	G 4, 9-12	G 4, 9-12	G 4, 9-12	G 4, 9-12	G 4, 9-12	G 4, 9-12
Type	CRT	CRT	CRT	CRT	CRT	CRT	CRT

*CAT-5: California Achievement Test *NYSMT: New York State Math Test *MRE: Math Regents Exam

*PAM: Performance Assessment Mathematics *TNM: Terra Nova Mathematics

*BRE: Biology Regents Exam *ESPET: Elementary Science Program Evaluation Test

PC: Percentile SN: Stanine PL: Performance Level PF: Pass/Fail SS: Scaled Score OT: Other

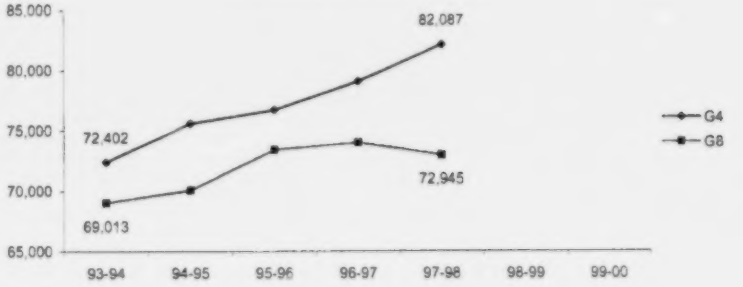
NRT: Norm-Referenced Test CRT: Criterion-Referenced Test

District Assessment Test-Taker Trends CAT-5

♦ Mathematics

# of Test-takers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4	72,402	75,561	76,696	79,043	82,087		
Grade 8	69,013	70,029	73,383	73,990	72,945		
Grade 10							

Total number of students taking test

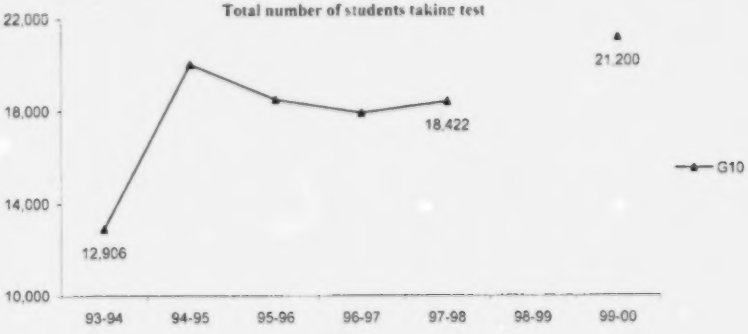


State Assessment Test - ESPET & BRE

♦ Science

# of Test-takers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4	.	.	.	.	.	.	.
Grade 8							
Grade 10	12,906	20,018	18,502	17,923	18,422	.	21,200

Total number of students taking test



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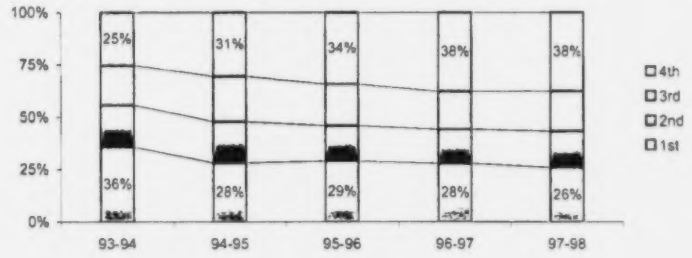
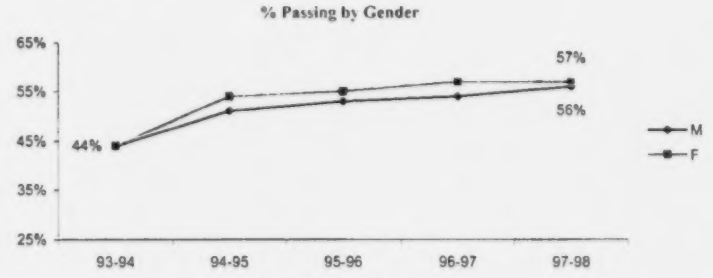
New York USI

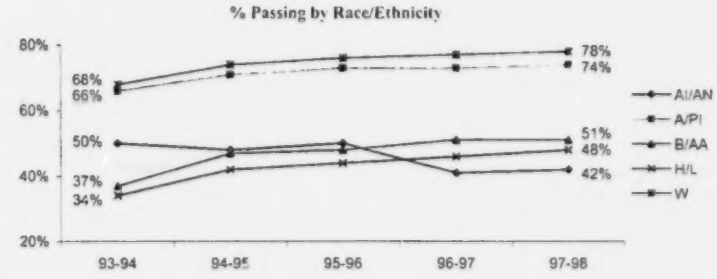
District Assessment Test Result Trends CAT-5 - Mathematics

♦ **Grade 4**

Quartile	93-94	94-95	95-96	96-97	97-98	98-99	99-00
4th	25%	31%	34%	38%	38%		
3rd	19%	22%	20%	18%	19%		
2nd	20%	20%	17%	16%	18%		
1st	36%	28%	29%	28%	26%		
Total num of students	72,402	75,561	76,696	79,043	82,087		



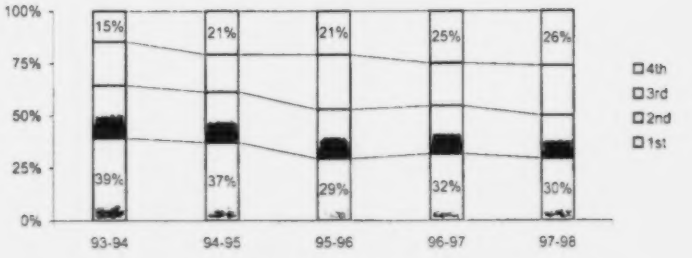


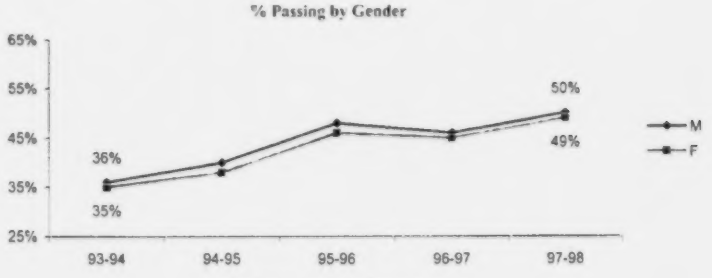


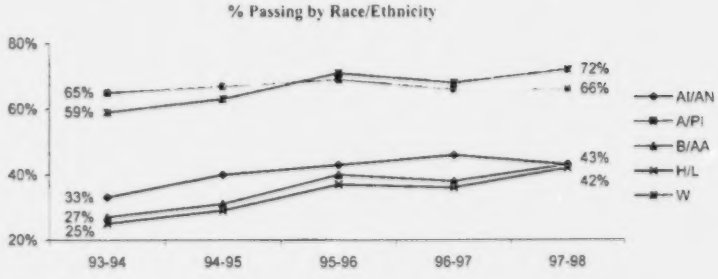
District Assessment Test Result Trends CAT-5 - Mathematics

♦ **Grade 8**

Quartile	93-94	94-95	95-96	96-97	97-98	98-99	99-00
4th	15%	21%	21%	25%	26%		
3rd	21%	18%	26%	20%	24%		
2nd	25%	24%	24%	23%	21%		
1st	39%	37%	29%	32%	30%		
Total num of students	69,013	70,029	73,383	73,990	72,945		





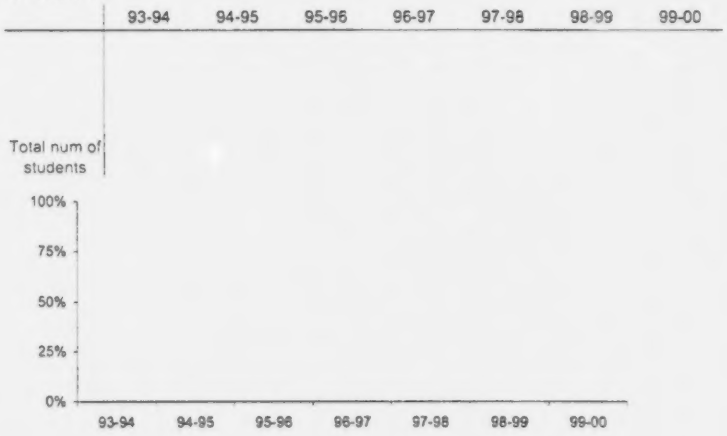


AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

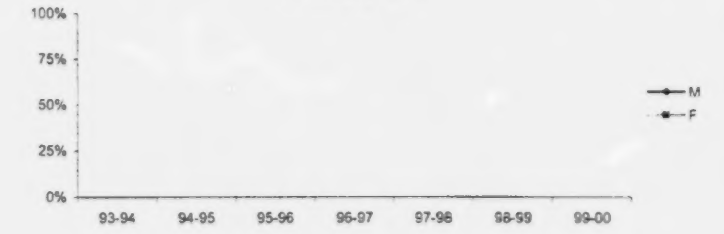
% Passing defined as 3rd Quartile + 4th Quartile

State Assessment Test Result Trends - Mathematics

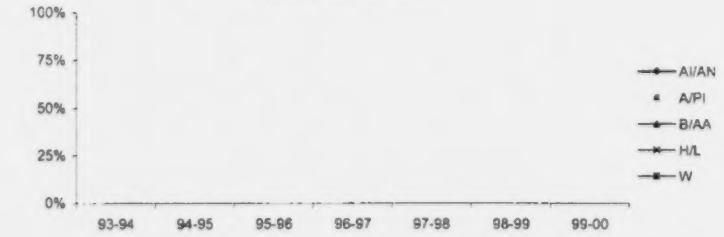
♦ **Grade 10**



% Passing by Gender

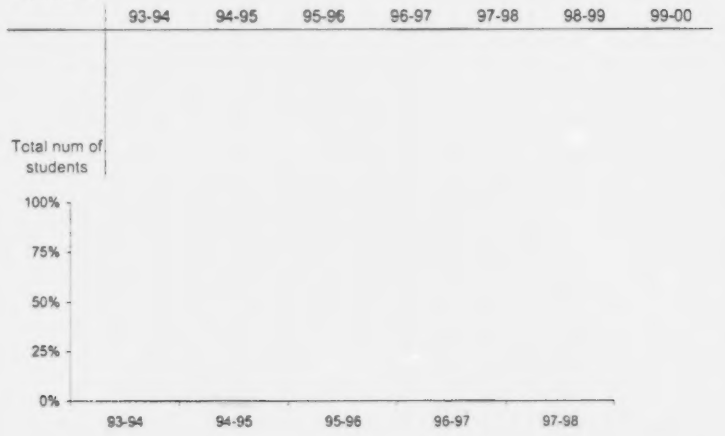


% Passing by Race/Ethnicity

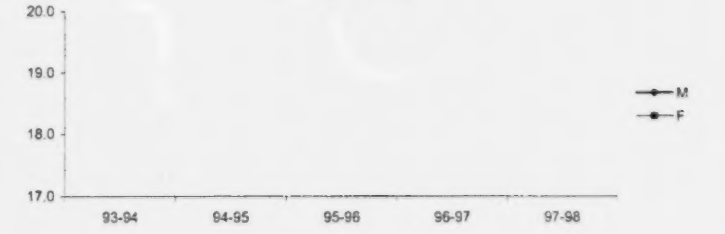


State Assessment Test Result Trends ESPET - Science

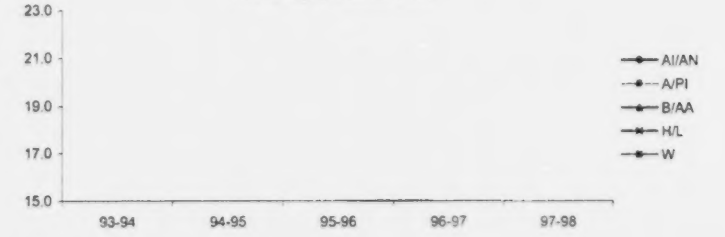
♦ **Grade 4**



% Passing by Gender



% Passing by Race/Ethnicity



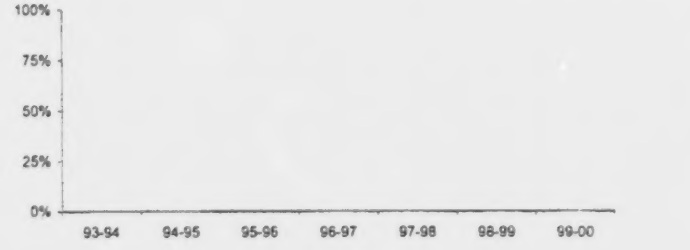
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

New York USI

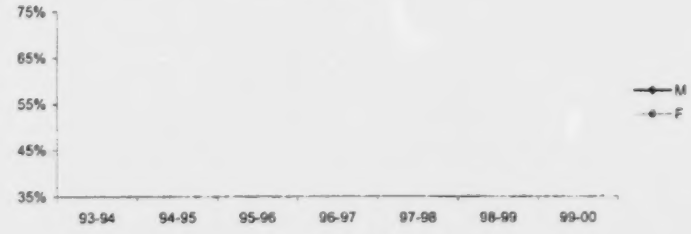
State Assessment Test Result Trends - Science

♦ Grade 8

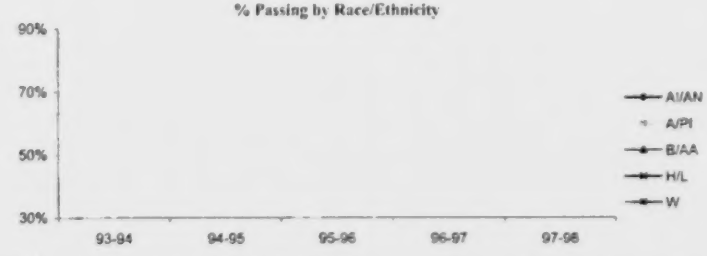
	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total num of students							



% Passing by Gender



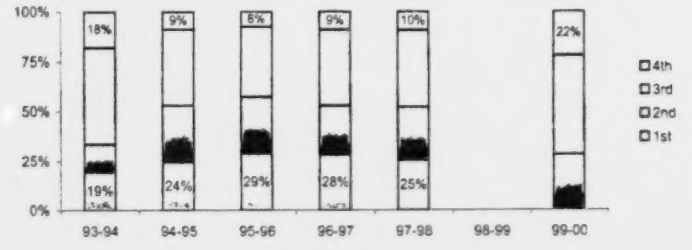
% Passing by Race/Ethnicity



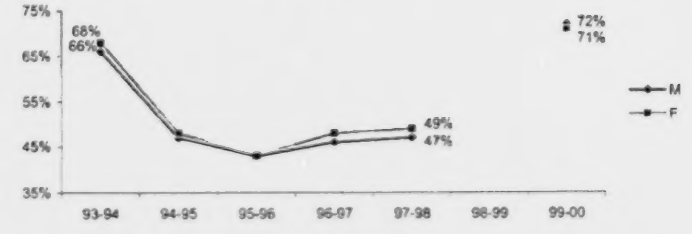
State Assessment Test Result Trends BRE - Science

♦ Grade 10

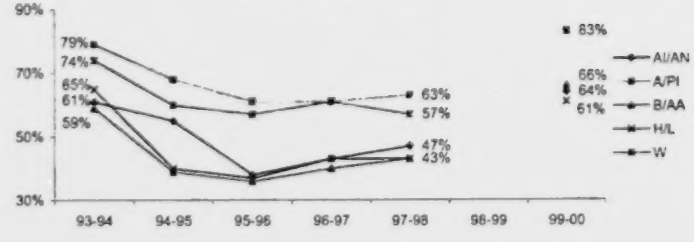
Quartile	93-94	94-95	95-96	96-97	97-98	98-99	99-00
4th	18%	9%	8%	9%	10%	.	22%
3rd	49%	38%	35%	38%	38%	.	50%
2nd	14%	29%	28%	25%	27%	.	28%
1st	19%	24%	29%	28%	25%	.	0%
Total num of students	12,906	20,018	18,502	17,923	18,422	.	21,200



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as 3rd Quartile + 4th Quartile

(.) Data Missing

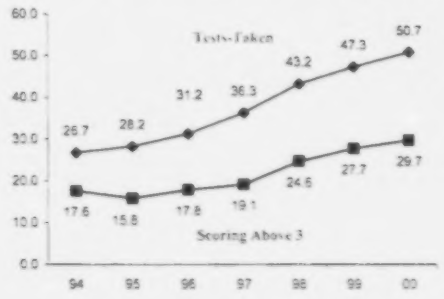
New York USI

AP Mathematics Test Result Trends • **AP Mathematics (Calculus AB, Calculus BC, & Statistics)**

• AP Mathematics - Total Number of Tests Taken

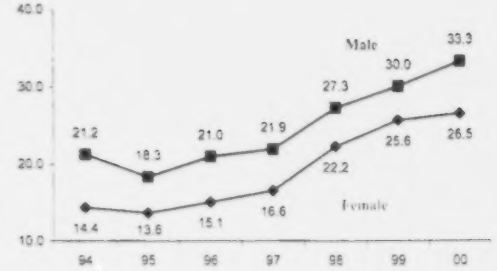
		94	95	96	97	98	99	00
Total Num of 11th & 12th		96,715	98,163	97,209	97,708	90,792	87,616	85,556
Tests Taken	Calc. AB	1,831	2,025	2,169	2,498	2,589	2,761	2,742
	Calc. BC	749	746	865	894	1,070	888	1,025
	Statistics	0	0	0	156	264	495	572
	Total	**2,580**	**2,771**	**3,034**	**3,548**	**3,923**	**4,144**	**4,339**
Num of tests taken/1,000 stu.		26.7	28.2	31.2	36.3	43.2	47.3	50.7
Scoring Above 3		1,699	1,554	1,735	1,866	2,232	2,424	2,537
Num of Above 3/ 1,000 students		17.6	15.8	17.8	19.1	24.6	27.7	29.7

Number of tests taken and scoring above 3 per 1,000 students



• AP Mathematics - Number of Students Scoring Above 3 By Gender per 1,000 Students

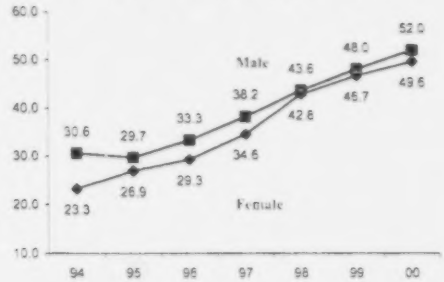
Score Above 3 per 1,000		94	95	96	97	98	99	00
	Male	21.2	18.3	21.0	21.9	27.3	30.0	33.3
	Female	14.4	13.6	15.1	16.6	22.2	25.6	26.5



• AP Mathematics - Number of Tests Taken By Gender Per 1,000 Students

Tests Taken per 1,000		94	95	96	97	98	99	00
	Male	30.6	29.7	33.3	38.2	43.6	48.0	52.0
	Female	23.3	26.9	29.3	34.6	42.8	46.7	49.6

Number of tests taken per 1,000 students by Gender



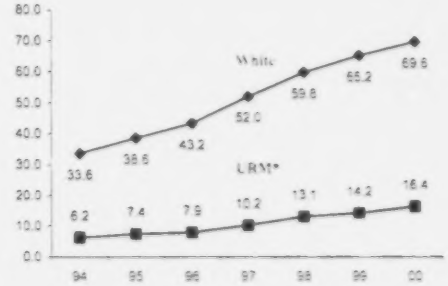
• AP Mathematics - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [1]

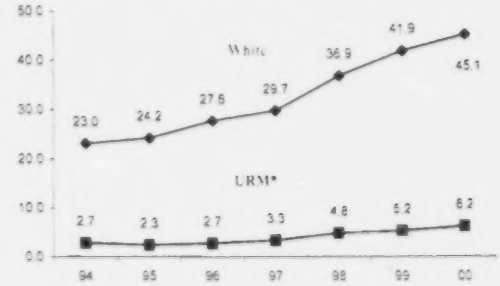
	94	95	96	97	98	99	00
AI/AN	0.0	9.6	7.0	20.7	11.2	14.2	6.0
A/PI	65.8	56.8	62.7	63.5	76.6	85.0	92.6
B/AA	2.4	2.4	2.5	3.2	3.9	4.9	6.5
H/L	3.2	2.2	2.9	3.1	5.7	5.5	5.9
W	23.0	24.2	27.6	29.7	36.9	41.9	45.1

• AP Mathematics - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [1]

	94	95	96	97	98	99	00
AI/AN	9.6	16.1	31.7	38.5	30.9	34.1	15.0
A/PI	91.0	88.5	97.0	106.6	117.5	129.4	141.7
B/AA	5.7	7.8	7.9	10.4	12.7	15.1	16.5
H/L	6.8	6.8	7.1	9.7	13.2	13.0	16.3
W	33.6	38.6	43.2	52.0	59.8	65.2	69.6

Number of tests taken per 1,000 students by Race/Ethnicity





AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[1] "Other" category not presented

*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

AP Science Test Result Trends ♦ **AP Science (Biology, Chemistry, Environ. Sci., Phy. B, Phy. C Mech., & Phy. C Elec.)**

♦ **AP Science - Total Number of Tests Taken**

		94	95	96	97	98	99	00
Total Num of 11th & 12th		96,715	98,163	97,209	97,708	90,792	87,616	85,556
Tests Taken	Biology	1,254	1,386	1,501	1,800	1,824	1,603	1,739
	Chem.	610	679	887	1,068	915	943	954
	Enviro. Sci.	0	0	0	0	305	429	386
	Physics B	394	440	616	609	724	712	679
	Ph. C Mech.	144	133	132	153	154	156	163
	Ph. C Elec.	124	104	110	141	122	131	125
	Total	**2,526**	**2,742**	**3,246**	**3,771**	**4,044**	**3,974**	**4,046**
Num of tests taken/1,000 stu.		26.1	27.9	33.4	38.6	44.5	45.4	47.3
Scoring Above 3		1,683	1,592	1,893	2,148	2,199	2,218	2,296
Num of Above 3/ 1,000 students		17.4	16.2	19.5	22.0	24.2	25.3	26.8

♦ **AP Science - Number of Tests Taken By Gender**
Per 1,000 Students

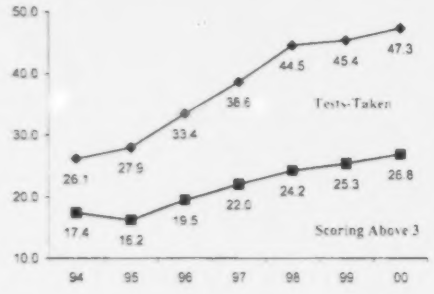
		94	95	96	97	98	99	00
Tests Taken per 1,000	Male	30.0	29.8	35.9	41.1	45.6	46.8	49.6
	Female	22.7	26.3	31.2	36.3	43.6	44.1	45.3

♦ **AP Science - Number of Tests Taken By Race/Ethnicity**
Per 1,000 Students [*1]

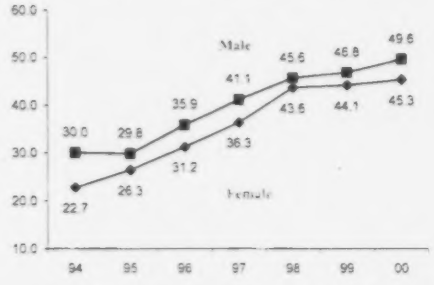
	94	95	96	97	98	99	00
AI/AN	19.1	16.1	28.2	14.8	22.5	17.0	15.0
A/PI	84.9	82.2	96.2	108.8	116.2	119.4	122.2
B/AA	26.1	31.1	36.6	43.0	49.3	50.7	56.6
H/L	6.2	7.0	8.5	11.2	12.9	12.0	16.3
W	33.0	39.1	45.4	50.8	58.7	60.1	65.7

AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented

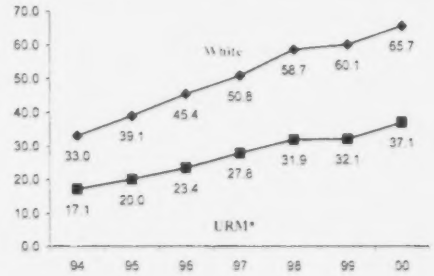
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender

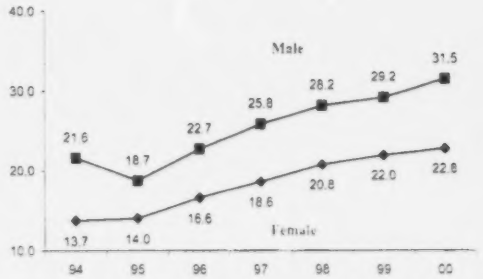


Number of tests taken per 1,000 students by Race/Ethnicity



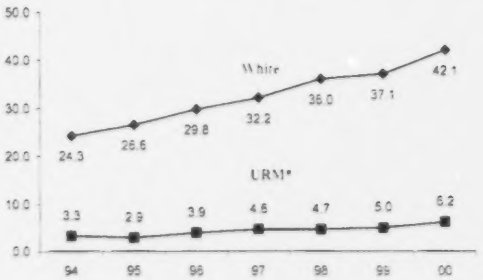
♦ **AP Science - Number of Students Scoring Above 3**
By Gender per 1,000 Students

		94	95	96	97	98	99	00
Score Above 3 per 1,000	Male	21.6	18.7	22.7	25.8	28.2	29.2	31.5
	Female	13.7	14.0	16.6	18.6	20.8	22.0	22.8



♦ **AP Science - Number of Students Scoring Above 3**
By Race/Ethnicity per 1,000 Students [*1]

	94	95	96	97	98	99	00
AI/AN	12.7	9.6	10.6	3.0	11.2	5.7	3.0
A/PI	59.4	51.1	58.4	69.6	72.0	74.8	78.9
B/AA	3.0	3.1	4.0	4.7	4.6	5.4	6.0
H/L	3.6	2.5	3.7	4.6	4.6	4.6	6.5
W	24.3	26.6	29.8	32.2	36.0	37.1	42.1



*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

AP Computer Science Test Result Trends • **AP Computer Science (Computer Science A & AB)**

• AP Computer Science - Total Number of Tests Taken

		94	95	96	97	98	99	00
	Total Num of 11th & 12th students	96,715	98,163	97,209	97,708	90,792	87,616	85,556
Tests Taken	Comp. Sci A	289	227	253	300	270	308	433
	Comp. Sci. AB	130	179	219	183	156	165	160
	Total	**419**	**406**	**472**	**483**	**426**	**473**	**593**
	Num of tests taken/1,000 stu.	4.3	4.1	4.9	4.9	4.7	5.4	6.9
	Scoring Above 3	211	222	236	249	241	292	371
	Num of Above 3/ 1,000 students	2.2	2.3	2.4	2.5	2.7	3.3	4.3

• AP Computer Science - Number of Tests Taken By Gender Per 1,000 Students

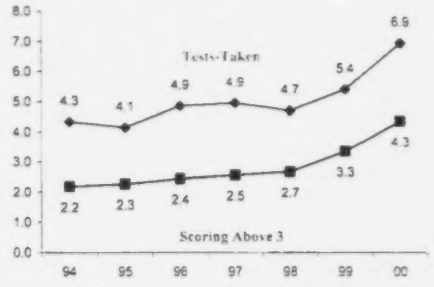
		94	95	96	97	98	99	00
Tests Taken per 1,000	Male	6.5	6.4	7.9	6.7	7.3	9.5	11.4
	Female	2.5	2.1	2.1	3.4	2.4	1.8	3.0

• AP Computer Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students[*1]

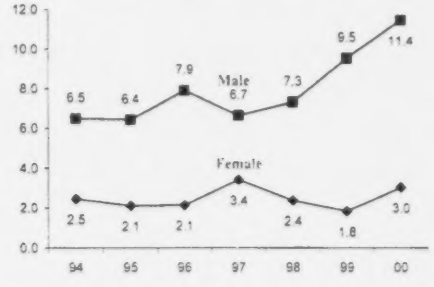
	94	95	96	97	98	99	00
AI/AN	3.2	6.4	3.5	3.0	0.0	0.0	3.0
A/PI	18.5	13.9	16.7	16.3	16.2	15.5	22.5
B/AA	0.5	0.8	1.1	1.1	0.4	0.5	1.0
H/L	1.0	1.0	0.8	1.2	0.6	0.6	1.3
W	4.4	5.9	6.8	7.7	6.8	10.8	11.1

AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented

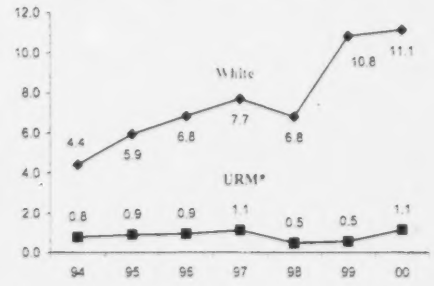
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender

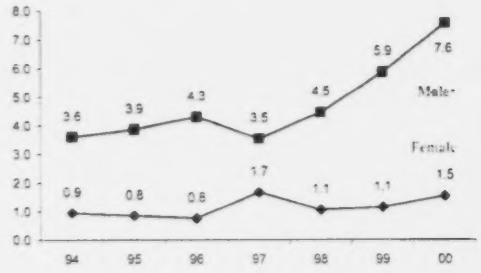


Number of tests taken per 1,000 students by Race/Ethnicity



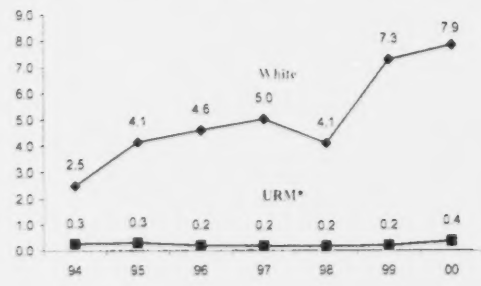
• AP Computer Science - Number of Students Scoring Above 3 By Gender Per 1,000 Students

		94	95	96	97	98	99	00
Score Above 3 per 1,000	Male	3.6	3.9	4.3	3.5	4.5	5.9	7.6
	Female	0.9	0.8	0.8	1.7	1.1	1.1	1.5



• AP Computer Science - Number of Students Scoring Above 3 By Race/Ethnicity Per 1,000 Students[*1]

	94	95	96	97	98	99	00
AI/AN	0.0	6.4	0.0	0.0	0.0	0.0	3.0
A/PI	9.4	7.2	7.6	8.9	9.8	9.2	14.6
B/AA	0.1	0.3	0.1	0.2	0.1	0.2	0.4
H/L	0.4	0.2	0.3	0.2	0.2	0.2	0.3
W	2.5	4.1	4.6	5.0	4.1	7.3	7.9



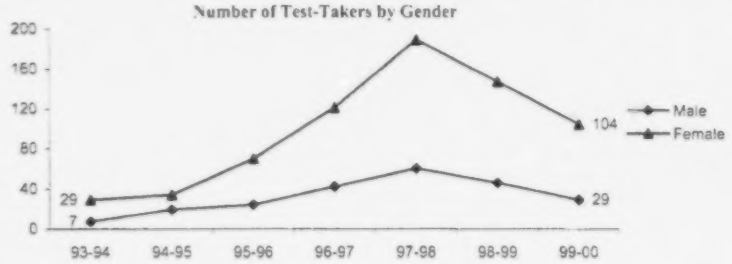
*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

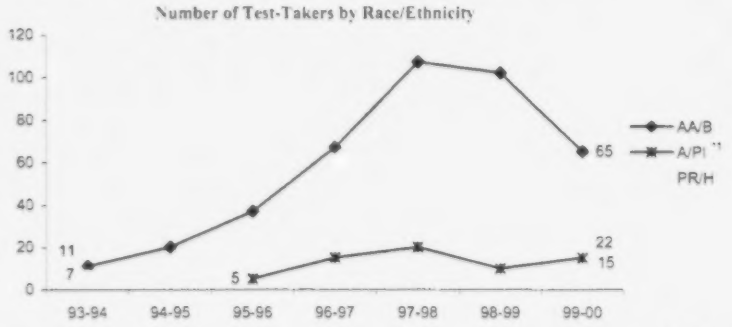
New York USI

ACT Test-Takers

• Number of Test-Takers

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		36,812	36,653	36,103	38,052	37,054	38,356	38,388
Test-Takers		36	53	94	163	249	193	134
Num of Test-Takers/1,000 Stu		1	1	3	4	7	5	3
Gender	Male	7	19	24	42	60	46	29
	Female	29	34	70	121	189	147	104
Race/Ethnicity	AA/B	11	20	37	67	107	102	65
	AI/AN [*1]	0	0	0	1	0	0	0
	CA/W [*1]	4	6	2	9	11	3	5
	MA/C [*1]	0	0	0	1	1	1	4
	A/PI [*1]	1	3	5	15	20	10	15
	PR/H	7	14	21	38	60	48	22

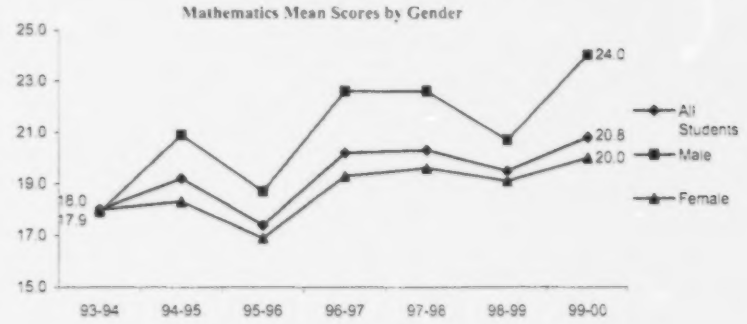


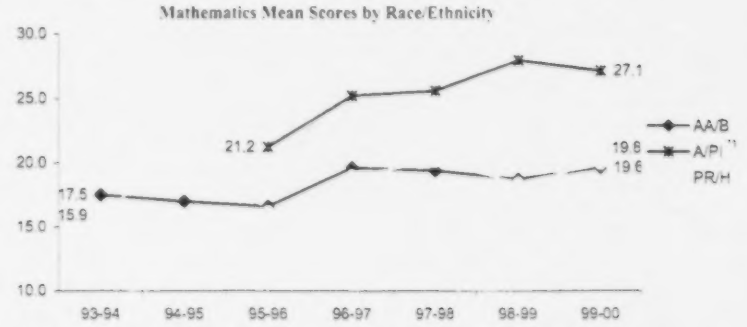


ACT Mathematics Scores

• Mathematics - Mean Score Trends

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		18.0	19.2	17.4	20.2	20.3	19.5	20.8
Gender	Male	17.9	20.9	18.7	22.6	22.6	20.7	24.0
	Female	18.0	18.3	16.9	19.3	19.6	19.1	20.0
Race/Ethnicity	AA/B	17.5	17.0	16.6	19.6	19.4	18.7	19.6
	AI/AN [*2]	-	-	-	-	-	-	-
	CA/W [*2]	-	21.3	-	21.9	20.3	-	21.6
	MA/C [*2]	-	-	-	-	-	-	-
	A/PI [*2]	-	-	21.2	25.2	25.6	27.9	27.1
	PR/H	15.9	21.2	16.3	19.1	20.0	18.5	19.8





AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic

[*1] Number of Test-Takers less than 5 not presented in graph

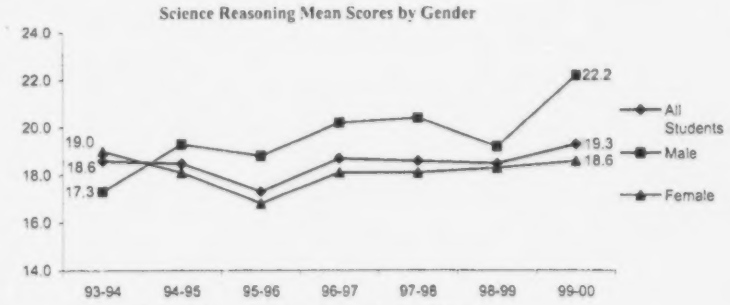
[*2] Mean scores not presented for sample size less than 5

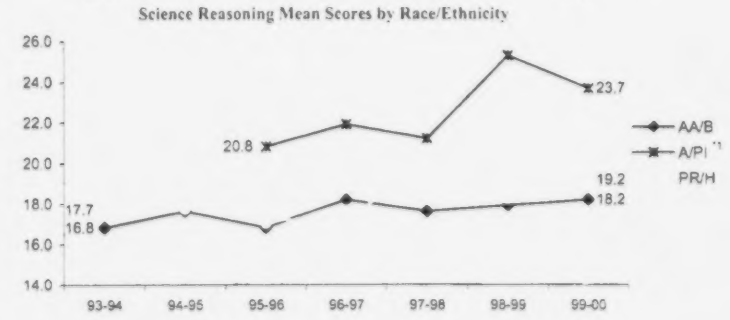
New York USI

ACT Science Reasoning Scores

• Science Reasoning - Mean Score Trends

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		18.6	18.5	17.3	18.7	18.6	18.5	19.3
Gender	Male	17.3	19.3	18.8	20.2	20.4	19.2	22.2
	Female	19.0	18.1	16.8	18.1	18.1	18.3	18.6
Race/Ethnicity	AA/B	16.8	17.6	16.8	18.2	17.6	17.9	18.2
	AI/AN [*1]	-	-	-	-	-	-	-
	CA/W [*1]	-	22.7	-	22.2	21.5	-	20.4
	MA/C [*1]	-	-	-	-	-	-	-
	A/PI [*1]	-	-	20.8	21.9	21.2	25.3	23.7
	PR/H	17.7	17.7	17.0	17.7	18.8	18.2	19.2





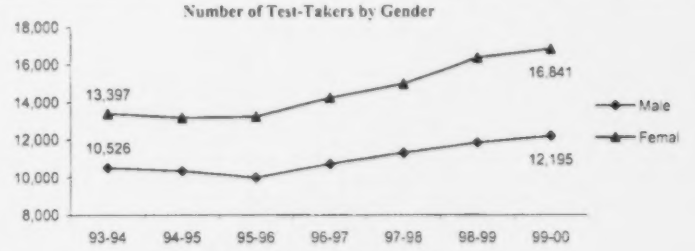
AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White
MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.

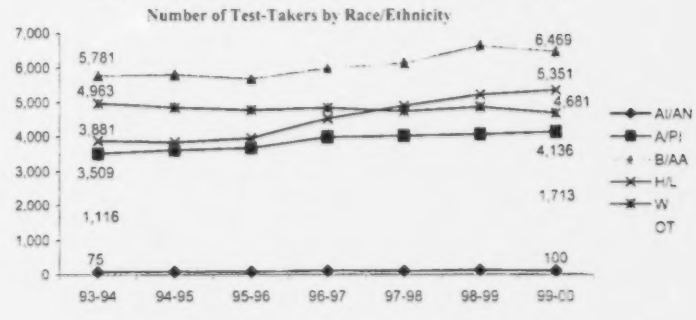
[*1] Mean scores not presented for sample size less than 5

SAT Test-Takers

• Number of Test-Takers

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		36,812	36,653	36,103	38,052	37,054	38,356	38,388
Test-Takers		23,923	23,532	23,227	24,984	26,283	28,215	29,036
Num of Test-Takers/1,000 Stu		650	642	643	657	709	736	756
Gender	Male	10,526	10,354	9,988	10,743	11,302	11,850	12,195
	Female	13,397	13,178	13,239	14,241	14,981	16,365	16,841
Race/Ethnicity	AI/AN	75	83	77	109	103	124	100
	A/PI	3,509	3,618	3,678	3,991	4,019	4,071	4,136
	B/AA	5,781	5,801	5,689	5,991	6,137	6,640	6,469
	H/L	3,881	3,836	3,960	4,523	4,895	5,217	5,351
	W	4,963	4,844	4,770	4,835	4,730	4,863	4,681
	OT	1,116	1,187	1,131	1,274	1,561	1614	1,713





AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American
H/L: Hispanic or Latino W: White OT: Others

New York USI

SAT Mathematics Scores

♦ Mathematics - Mean Score Trends

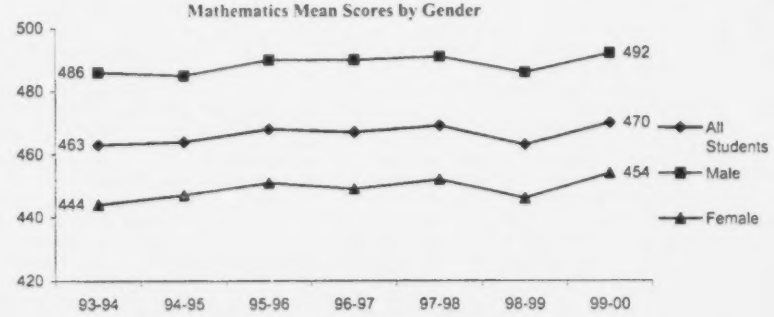
		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		463	464	468	467	469	463	470
Gender	Male	486	485	490	490	491	486	492
	Female	444	447	451	449	452	446	454
Race/Ethnicity	AI/AN	422	440	411	438	438	431	438
	A/PI	557	551	553	554	558	554	563
	B/AA	417	416	421	419	424	421	428
	H/L	425	428	431	428	430	426	430
	W	504	509	514	513	518	519	525
	OT	461	469	469	471	469	464	472

SAT Verbal Scores

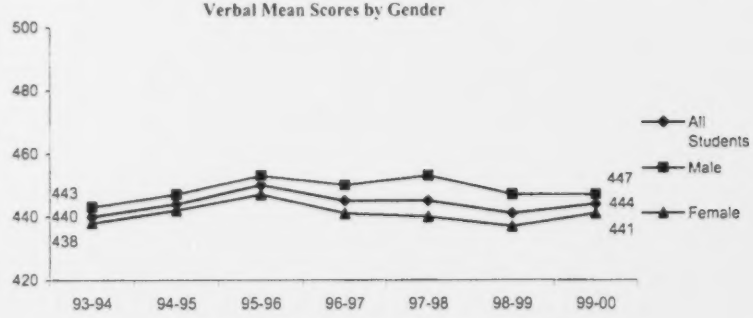
♦ Verbal - Mean Score Trends

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		440	444	450	445	445	441	444
Gender	Male	443	447	453	450	453	447	447
	Female	438	442	447	441	440	437	441
Race/Ethnicity	AI/AN	420	427	416	428	427	422	415
	A/PI	463	464	468	464	471	465	469
	B/AA	424	424	433	429	429	428	430
	H/L	423	427	432	429	424	426	422
	W	488	494	497	492	496	495	501
	OT	459	463	465	463	459	456	459

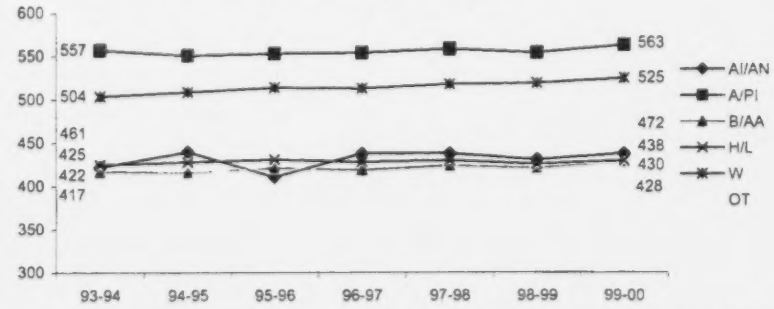
Mathematics Mean Scores by Gender



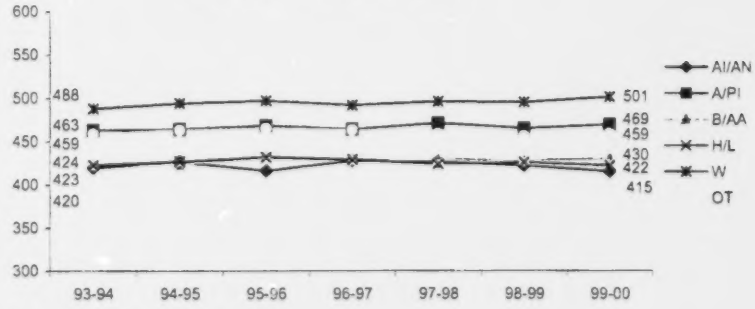
Verbal Mean Scores by Gender



Mathematics Mean Scores by Race/Ethnicity



Verbal Mean Scores by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

New York USI

Cohort/Scale-Up Approach

	94-95	95-96	96-97	97-98	98-99	99-00
Number of District**:	1,006	1,100	1,119	1,136	1,145	1,189
USI Schools***:	*	149	204	1,076	1,085	1,128
% Schools:		14%	18%	95%	95%	95%

* Data not available; **Core Data Elements 2000-2001
***K-1 2001

Primary Decision Making Body

Standards Curriculum	State
Curriculum/TextBook Adoption	State
Student Assessment	State
Professional Development	District
Resources	District
Teacher Hiring	District
Teacher Contracts	District
Certification & Re-certification	State
Graduation Requirements	State
School-Based Management?	Yes

Policies Promoting Equal Access by All Students in High Quality Education

Student Tracking:	• Regents Examinations for enrollment in Regents special courses
Criteria for Entry into High Level Mathematics and Science Courses:	• All students required to meet high standards and take Regents Examinations
Availability of High Level Courses:	• Regents Courses available to all students
Special Ed. & Bilingual Stud.:	• Standards same for all students

Policies Impacting the Enrollment of Students in Challenging Math and Science Courses

Attendance :	• Mandatory attendance
Guidance:	• Efforts to have students enroll in high level mathematics and science courses
Student Support Systems:	• Mathematics and Science Institute • Peer and co-curricula tutoring • Teacher parent conferences
Others:	• Summer school for those not meeting promotional standards (K-12) • Tutoring in regents, math and science afterschool and on Saturday • Family math and science programs

Policies Relevant to Curriculum

Framework:	• New York State Standards and Frameworks
Curricula:	• New York State Regents Curricula
Curricula Materials:	• Algebra Project • Connected Mathematics Project (CMP) • Everyday Mathematics • Mathematics in Context (MIC) • Mathland • Interactive Mathematics Program (IMP) • Investigations in Number, Data, and Space (TERC) • Insights • Full Option Science System (FOSS) • Science Improvement Curriculum Study (SICS) • Science Education for Public Understanding (SEPUP) • Science and Technology for Children (STC) • Mathematics, A Way of Thinking
New Courses Added as a Result of USI:	• None reported

Instructional Time:	• State Requirement: 330 minutes of instruction daily (5.5 hours)

Standards-based Curriculum and Instruction

Standards Adopted:	• Regents Assessment System (including Living E and Physical Setting)
Primary Instructional Strategies:	• E: Hands-on and inquiry-based • M, H: Project-based • Student focused developmental lessons
% of Students Experiencing Standards-based Mathematics Curricula*:	E: 12% M: 8% H: 4%
% of Students Experiencing Standards-based Science Curricula*:	E: 29% M: 15% H: 15%

Policies Relevant to Teacher Qualifications

Certification:	• Teachers with a bachelor's degree and state certification can obtain a 4 year NYC provisional certificate
Requirement & Hiring Practices	• National and international recruitment
Professional Advancement & Leadership Training:	• Must meet state and NYC Board of Education certification requirements
Contract Requirements:	• Collective bargaining agreement between NYC Board of Education and the United Federation of Teachers

*E: Elementary School M: Middle School H: High School

New York USI

Professional Development Policies and Practices

Time Required or Supported:	• Non-certified new teachers: 60 hours per year • Certified new teachers : 30 hours per year • Supervisors and administrators: 26 hours per year
Financial Resources Provided:	• Stipends or possession pay per session for after school, weekend, or summer professional development
Alignment to Student Standards:	• Standards Performance Standards
Measurement of Impact:	• K-G12 achievement data
Other:	
Type and Amount Received by Average Math/Science Teacher:	
Evaluation Instruments:	• Center for Advanced Studies for Education at City University of New York and NYC Board of Education Office of Assessment and Accountability
Professional Development Alignment to Content Standards Measures:	
Teacher's Instructional Practices Evaluation:	• Classroom observation by assistant principals, principals and superintendents
Impact on Student Achievement:	• Analysis of student performance at classroom, school, district, city-wide and state levels

Policies Relevant to Standards-based Assessments

Extent to Which Assessments are Aligned to District Standards and Curricula:	• Total alignment
Methods stakeholders are informed of goals, objectives and accomplishments of assessment program:	• NYC USI world wide web page • Newsletter • Conferences • Student Advisory Council • Parent Advisory Council • Community School Boards

USI Leadership, Governance, and Management

Superintendent:	• New York State Governance Legislation holds Superintendents accountable to the Chancellor
USI Office:	• Co-PI is NYC Board of Education Chief Executive for Instructional and Support Services • Co-PI is City University of New York Dean of Academic Affairs • Project Director is Administrative Assistant Superintendent of Schools • 5 NYC USI Associate (Borough) Directors

Community Key Personnel:	• Borough-wide MST Coordinating Councils • Chancellor's Student Advisory Council • Student Setting Standards (dissemination) • Parental and Student Surveys of Standards-based Curriculum • Chancellor's Parent Advisory Council
Teacher Leaders:	

Partnerships

Other Key Initiatives:	• 3D/LAD Schools by Borough Network
Community Stakeholders:	• NYC USI Advisory Council
Higher Education:	• City University of New York • Columbia University
Business and Industry:	• Texas Instruments: NYC USI designated as an Urban Model of Promise
Other Partnerships:	• American Museum of Natural History • National Aeronautics and Space Administration Goddard Institute for Space Studies • Brookhaven National Laboratories • New York Academy of Sciences • Puerto Rico State Systemic Initiative

New York USI

Policy Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	•New York City (NYC) Division of Instruction and Professional Development worked with New York State Education Department officials to coordinate Mathematics and Science policy
	•State Mentoring Mathematics/Science/ Technology (MST) Network collaborated with NYC Board of Education
	•NYC District Mathematics and Science Coordinators
	•Professional Development for K-G12 teachers
1994-95	•NYC Chancellors Mathematics and Science Initiative: 3 Years each mathematics and science required for a Local Diploma
1995-96	•New York State New Governance Legislation gives the Chancellor broader authority over NYC Community School Districts
1996-97	•Chancellor's designation of NYC USI as organizational and driving force for MST reform
	•Adoption of New Standards Performance Standards for Mathematics and Science (i.e. calibration, awareness and professional development)
1998-99	•New Regents Examinations for Mathematics and Science required for diploma

Curriculum and Instruction Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	•NYC Board of Education is required to implement the New York State curriculum for mathematics and science.
1994-95	•Chancellor required 3 Regents mathematics and Regents science for graduation (local diploma)
	•NYC implemented its curriculum framework
	•New York state implemented its learning standards
1995-96	•Series of Mathematics Leadership Institutes in collaboration with National Science Resource Center
1996-97	•Chancellor is given more power over the 32 community school districts.
	•A district Comprehensive Educational Plan is required as an adjunct to superintendent's contrac.
	•Board of Education adopted New Standards Performance Standards for language arts, mathematics, science and applied learning
1997-98	•Alignment of Mathematics Performance Standards with New York State Learning Standards and National Council of Teachers' of Mathematics Standards
	•Completion and distribution of NYC Mathematics Performance Standard Manual to all teachers and administrators in system
1998-99	•Completion and distribution of NYC Sciences Performance Standard Manual to all teachers and administrators in system

Professional Development Policy and Program Changes to Support Teachers During USI Implementation

School Year	Policy Implemented
Before USI	•There were citywide, district and school professional development programs
	•Coordinated by central NYC Board of Education Division of Instruction and Professiona Development
1994-95	•Formation of Science Leadership Institutes
1995-96	•Formation of Mathematics Leadership Institute
1996-97	•Introduction of selected exemplary curricula and related professional development
1997-98	•NYC USI citywide summer professional development courses, workshops and institutes with emphasis on standards-based curricula and performance standards
	•Students setting Mathematics Standards
1998-99	•Expanded professional development including Texas Instruments' Mathematics Teacher Enhancement Institutes
	•Students Setting Science Standards
	•Focus is on standards-based curricula and new standards. Performance standards on mathematics & science.

Standards-based Assessment System Changes During USI Implementation

School Year	Policy Implemented
Before USI	•Elementary Science Program Evaluation Test •Middle and High School: Regents
1994-95	•Performance Assessment Mathematics G5
1995-96	•Performance Assessment Mathematics G7
1996-97	•No changes reported
1997-98	•No changes reported
1998-99	•New York State G4 and 8 Assessment in Mathematics • Terra Nova Mathematics G3,5,6, and 7

School District Progress Report

March 2002

Phoenix

Urban School Key Indicators of Science and Mathematics Education: 2001

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Phoenix USI

Project Information

USI Project Title :	Phoenix USI
Cohort:	93 (Sept. 94 - Aug. 99)
USI Web Site:	www.dist.maricopa.edu/eddev/phxusi/

♦ PI, CO-PI and PD

Dr. Rene X. Diaz	PI/Superintendent T (602) 271-3130 rene.diaz@qm.phxhs.k12.az.us
Dr. Susan Holt Maas	Co-PD T (602) 340-5911 susan.holt-mass@qm.phxhs.k12.az.us
Dr. Ernesto Ramirez, Jr.	Co-PD T (602) 731-8050 ernesto.ramirez@qm.phxhs.k12.az.us

♦ USI Data Manager/Evaluator

♦ Mailing Address

♦ USI Schools Math & Sci. Teachers and Students

98-99	Schools	Teachers	Students
K-G5 (Elementary)	91	·	59,047
G6-8 (Middle)	18	·	23,522
G9-12 (High)	10	·	21,615
Total	119	·	104,184

(·) Data Missing

Project Summary

The Phoenix Urban Systemic Initiative (Phoenix USI) project will reform the teaching and learning of science, mathematics, and technology in 87 elementary (K-8) schools and 8 high schools in the Phoenix inner city. The USI system, composed of 9 school districts serving 85,000 students, Arizona State University, state and municipal agencies, community-based organizations, the Arizona Science Center, business and industry, parents, and other members of the learning community, will create a culture for learning and change in which all students are mathematically, scientifically, and technologically competent to function successfully in the 21st century. This is being accomplished by developing, instituting, and maintaining supportive activities that empower the entire learning community to facilitate and enable ongoing systemic change.

Primary strategies are : (1) curriculum reform and implementation and (2) professional development for all science and mathematics teachers.

The initiative uses a facilitated joint governance model to achieve its benchmarks. The Phoenix USI is organized into six major programmatic components: (1) Curriculum/Instruction Alignment, (2) Professional Development, (3) Instructional Support, (4) Cross-Jurisdictional District Education Linkages, (5) Parent Involvement, and (6) Business/Industry and Community Linkages.

Project Goals

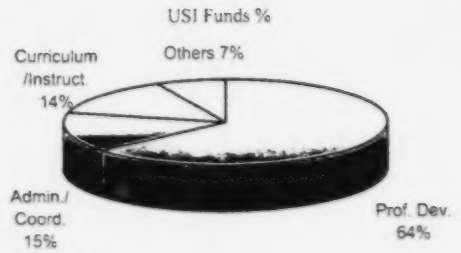
- To improve the scientific, mathematical, and technological literacy of all students in Phoenix urban schools.
- To provide the mathematics and science fundamentals that will permit all students to participate fully in a technological society.
- To enable a significantly greater number of these students to pursue careers in mathematics, science, engineering, and technology.
- To produce systemic reform in science, mathematics, and technology education through fundamental, comprehensive, and coordinated change that will improve outcomes for all students.

Selected School Indicators (District Average)

	93-94	98-99	Change
%Special Ed.	·	·	·
%LEP	·	·	·
%FRL	·	·	·
%Daily Ave. Atten.	·	·	·
%Average Retained	·	·	·
%Drop-Out	·	·	·
%Mobility	·	·	·
Per Pupil Cost ($)	·	·	·
Num of Students.Per Computer	·	·	·
% Classrooms Internet Access	·	·	·
Average Class Size	·	·	·

District and USI Fund Utilization (SY 1998-99)

	District	USI
Prof. Dev.	6%	64%
Admin./Coord.	1%	15%
Curriculum/ Instr.	73%	14%
Others	20%	7%
Total	100%	100%



Phoenix USI

Student Demographics (SY 1998-99)

District Total:	104,895	
USI Schools:	•	•

♦ Race/Ethnicity

	97-98	98-99	%	Change
Ame. Ind./Ala. Nat.	2,524	•	3.0%	.
Asian/P. Islander	949	•	1.1%	.
Black	9,049	•	10.8%	.
Hispanic	56,865	•	67.7%	.
White	14,613	•	17.4%	.
Other	8	•	0.0%	.
Total	84,008	104,895		+19.9%
URM Total	68,438	•	81.5%	.

URM: Underrepresented Minority students.

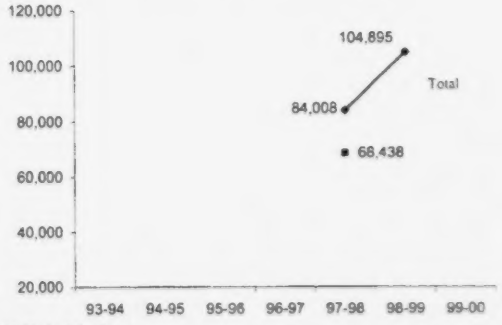
♦ Gender

Male	•	•	•	•
Female	•	•	•	•

♦ Grade

K-G5	40,596	59,047	56.3%	+31.2%
G6-8	16,063	23,522	22.4%	+31.7%
G9-12	22,271	21,615	20.6%	-3.0%
Ungraded	5,078	711	0.7%	-614.2%

♦ District-Wide Student Demographic Trends



(·) Data Missing

12th Grade Graduates

	93-94	99-00	Change
Total 12th Grade	•	•	•
Earned a Diploma	•	•	•
% Earned Diploma	•	•	•

% Earned Diploma

College Entrance

	93-94	99-00	Change
2 Yr College	•	•	•
4 Yr College	•	•	•
Other Post-Secon.	•	•	•
Total C. E.	•	•	•
% C. E./Earned Dip.	•	•	•

% College Entrance

High School Graduation Requirements SY99-00

- Mathematics
  - 3 years
- Science
  - 3 years

Math and Science Teachers & Certification

♦ Mathematics (G6-12)

		93-94	98-99	Change
G6-8	Teachers	•	158	•
	Certified	•	•	•
	% Cert.	•	•	•
G9-12	Teachers	•	148	•
	Certified	•	•	•
	% Cert.	•	•	•
Total	Teachers	•	306	•
	Certified	•	•	•
	% Cert.	•	•	•

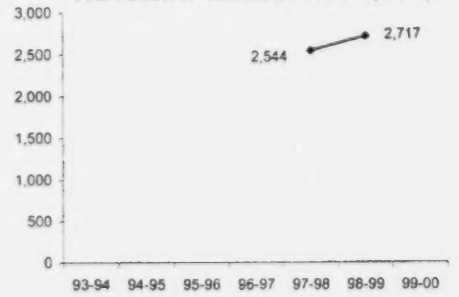
♦ Science (G6-12)

		93-94	98-99	Change
G6-8	Teachers	•	146	•
	Certified	•	•	•
	% Cert.	•	•	•
G9-12	Teachers	•	129	•
	Certified	•	•	•
	% Cert.	•	•	•
Total	Teachers	•	275	•
	Certified	•	•	•
	% Cert.	•	•	•

♦ Math and Science (K-G5)

		93-94	98-99	Change
K-G5	Teachers	2,544	2,717	+6.4%

Total Number of Math and Sci. Teachers (K-G12)

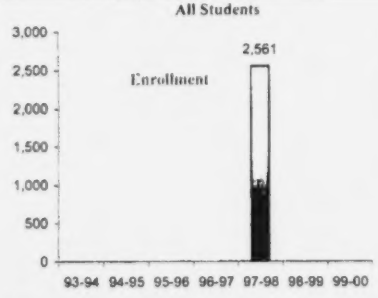


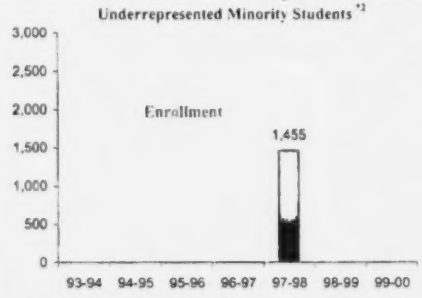
Phoenix USI

Mathematics and Science Enrollment & Completion Trends/ All vs. URM

G 9-12 Mathematics Gate-Keeping Courses (Algebra II, Geo., and Calculus)

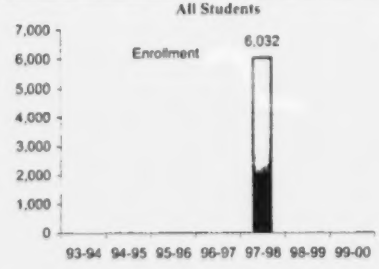
		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		20,168	20,686	.	.	22,271	.	.
All Students	Enrollment	.	.	.	.	2,561	.	.
	Completion *1	.	.	.	.	.	.	.
	% Enroll/ G9-12	.	.	.	.	11%	.	.
URM *2	Enrollment	.	.	.	.	1,455	.	.
	Completion *1	.	.	.	.	.	.	.
	% Enroll/ G9-12	.	.	.	.	9%	.	.

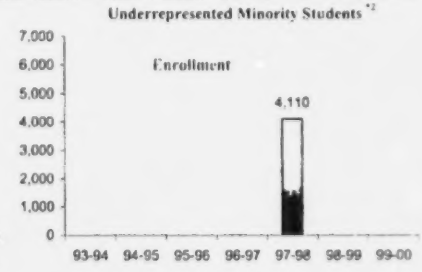




G 9-12 Science Gate-Keeping Courses (Biology 1, Chem. 1, and Physics 1)

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		20,168	20,686	.	.	22,271	.	.
All Students	Enrollment	.	.	.	.	6,032	.	.
	Completion *1	.	.	.	.	.	.	.
	% Enroll/ G9-12	.	.	.	.	27%	.	.
URM *2	Enrollment	.	.	.	.	4,110	.	.
	Completion *1	.	.	.	.	.	.	.
	% Enroll/ G9-12	.	.	.	.	25%	.	.





*1 Successful completion: grade 'D' or above.

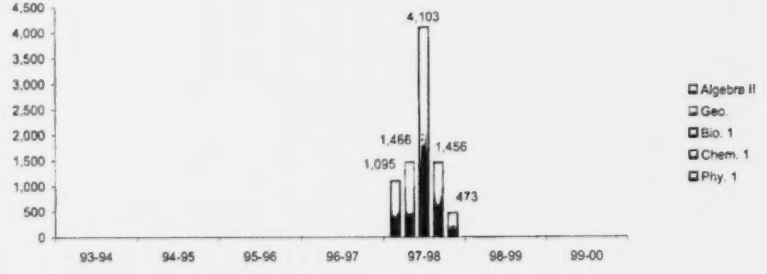
*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

(.) Data Missing

Mathematics and Science Enrollment & Completion Trends By Subject

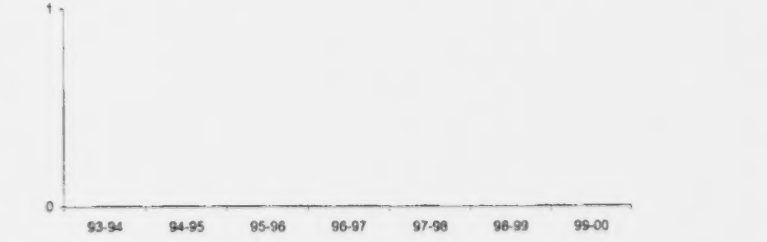
G 9-12 Course Enrollment (All Students)

	Algebra II	Geo.	Calculus	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
93-94	.	.	.	.	.	.	.	.
94-95	.	.	.	.	.	.	.	.
95-96	.	.	.	.	.	.	.	.
96-97	.	.	.	.	.	.	.	.
97-98	1,095	1,466	.	2,561	4,103	1,456	473	6,032
98-99	.	.	.	.	.	.	.	.
99-00	.	.	.	.	.	.	.	.



G 9-12 Course Completion *1 (All Students)

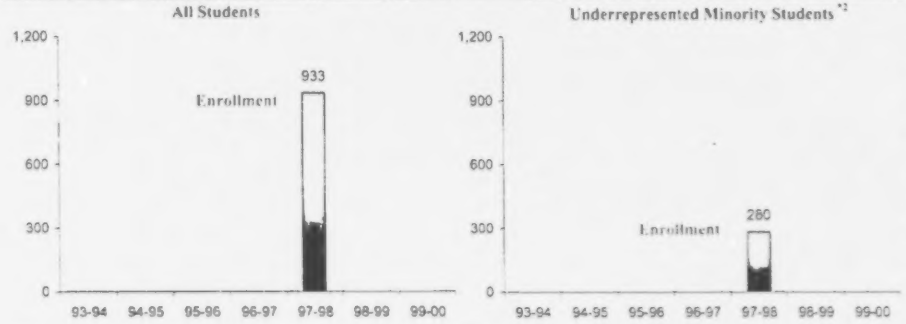
	Algebra II	Geo.	Calculus	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
93-94	.	.	.	.	.	.	.	.
94-95	.	.	.	.	.	.	.	.
95-96	.	.	.	.	.	.	.	.
96-97	.	.	.	.	.	.	.	.
97-98	.	.	.	.	.	.	.	.
98-99	.	.	.	.	.	.	.	.
99-00	.	.	.	.	.	.	.	.



*3 Calculus not represented on graph.

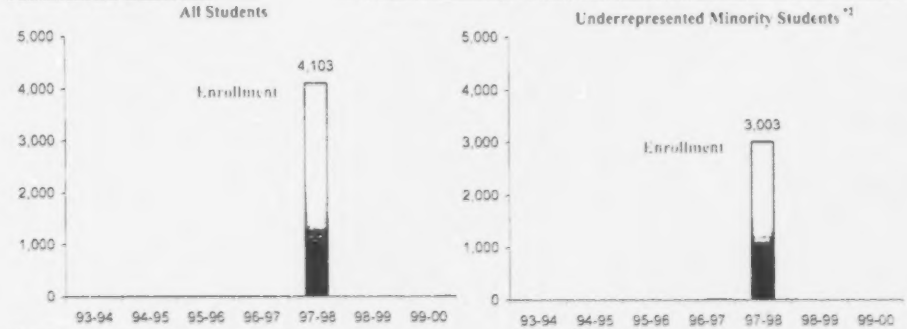
Algebra I or Above in 8th Grade Enrollment & Completion Trends/ All vs. URM

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total G 8 Population						4,861		
All Students	Enrollment					933		
	Completion *1							
	% Enroll/ G8					19%		
URM *2	Enrollment					280		
	Completion *1					0		
	% Enroll/ G8					7%		



Biology Enrollment & Completion Trends/ All vs. URM

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students	Enrollment					4,103		
	Completion *1							
URM *2	Enrollment					3,003		
	Completion *1							



*1 Successful completion: grade 'D' or above.
(.) Data Missing
*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Professional Development Participation of Teachers Teaching Mathematics and/or Science

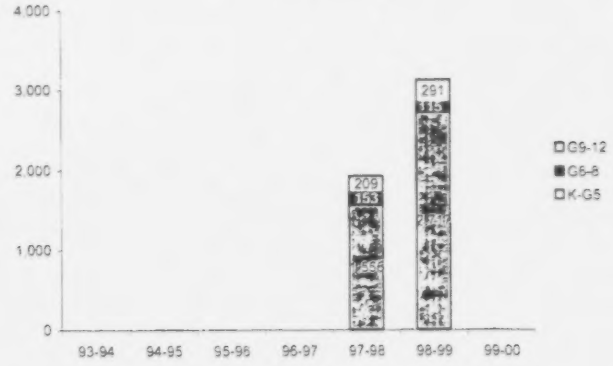
Total Number Teachers by Subject (G6-12)

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Mathematics					273	306	
Science					242	275	

Total Number of Teachers Participating in PD by Grade Level

Teachers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total K-G5					2,029	2,717	
# K-G5 Participated					1,556	1,258	
% K-G5 Participated					77%	46%	
Total G6-8					259	306	
# G6-8 Participated					153	115	
% G6-8 Participated					59%	38%	
Total G9-12					256	275	
# G9-12 Participated					209	91	
% G9-12 Participated					82%	33%	

Number of Teachers Participating in Professional Development by Grade Level Taught



Number of Teachers by Duration of Professional Development

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
1-59 Hours					810	506	
60-119 Hours					446	379	
120-200 Hours					335	245	
More than 200 Hours					327	334	

Phoenix USI

District Assessment Test Administered

♦ **Mathematics**

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name							
Scoring							
Grade							
Type							

♦ **Science**

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name							
Scoring							
Grade							
Type							

State Assessment Test Administered

♦ **Mathematics**

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	.	.	.	SAT-9	SAT-9	SAT-9	.
Scoring	.	.	.	PC,SS	PC,SS	PC,SS	.
Grade	.	.	.	G 3-12	G 3-12	G 3-12	.
Type	.	.	.	NRT,CRT	NRT,CRT	NRT,CRT	.

♦ **Science**

	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	.	.	.	Ca SI	Ca SI	Ca SI	.
Scoring	.	.	.	.	.	.	.
Grade	.	.	.	G 5, 8, 10	G 5, 8, 10	G 5, 8, 10	.
Type	.	.	.	OT	OT	OT	.

*SAT-9: Stanford Achievement Test - 9th Edition

*Ca SI: Ca SI Assessment Collaborative

PC: Percentile SN: Stanine PL: Performance Level

PF: Pass/Fail SS: Scaled Score OT: Other

NRT: Norm-Referenced Test CRT: Criterion-Referenced Test

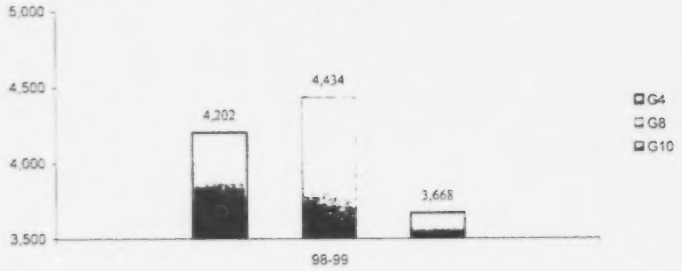
( ) Data Missing

State Assessment Test-Taker Trends - SAT-9

♦ **Mathematics**

# of Test-takers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4	.	.	.	.	.	4,202	.
Grade 8	.	.	.	.	.	4,434	.
Grade 10	.	.	.	.	.	3,668	.

Total number of students taking test



♦ **Science**

# of Test-takers	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Grade 5	.	.	.	.	.	.	.
Grade 8	.	.	.	.	.	.	.
Grade 10	.	.	.	.	.	.	.

Total number of students taking test

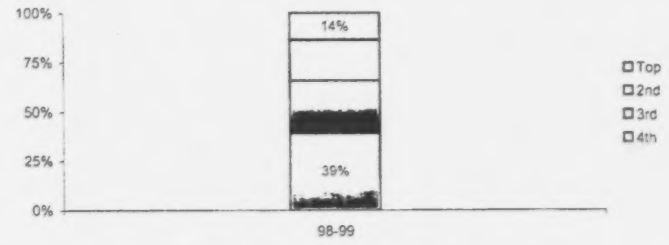
152

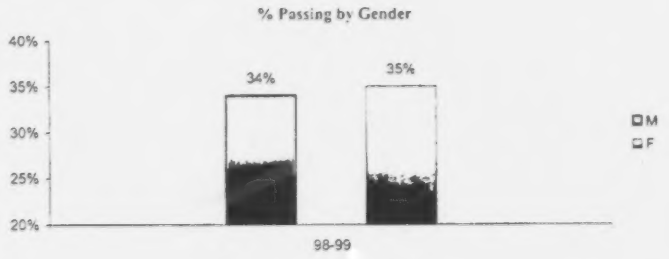
Phoenix USI

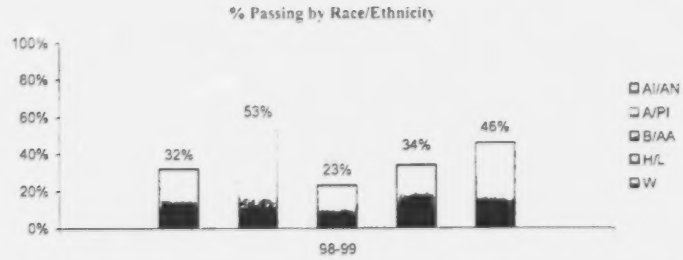
State Assessment Test Results Trends - SAT-9 Mathematics

♦ **Grade 4**

Quartile	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Top	.	.	.	.	.	14%	.
2nd	.	.	.	.	.	21%	.
3rd	.	.	.	.	.	27%	.
4th	.	.	.	.	.	39%	.
Total num of students	.	.	.	.	.	4,202	.



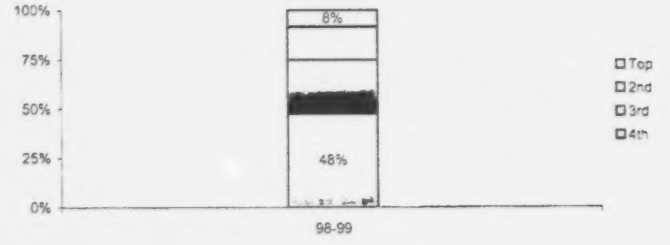


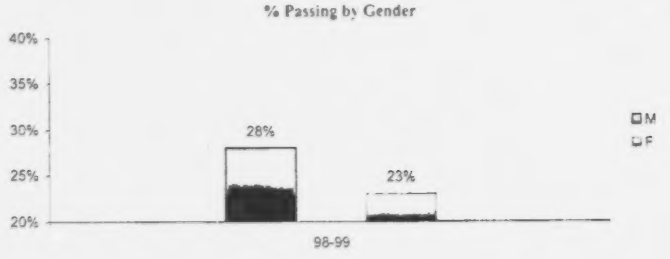


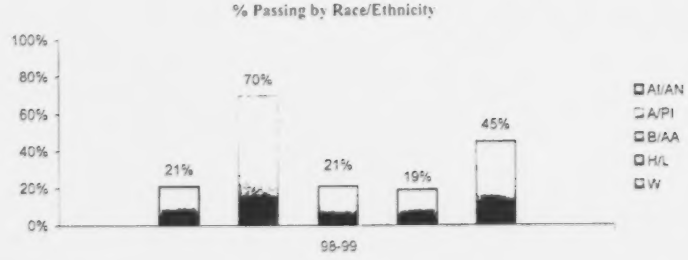
State Assessment Test Results Trends - SAT-9 Mathematics

♦ **Grade 8**

Quartile	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Top	.	.	.	.	.	8%	.
2nd	.	.	.	.	.	17%	.
3rd	.	.	.	.	.	27%	.
4th	.	.	.	.	.	48%	.
Total num of students	.	.	.	.	.	4,434	.







AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as Top Quartile + 2nd Quartile

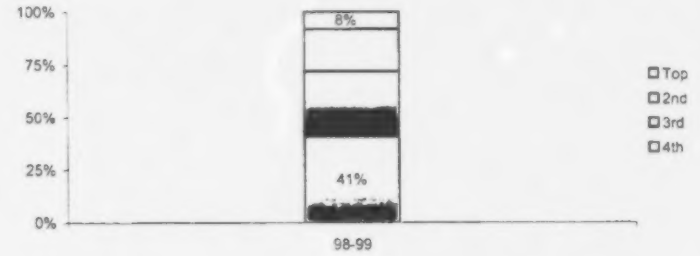
( ) Data Missing

Phoenix USI

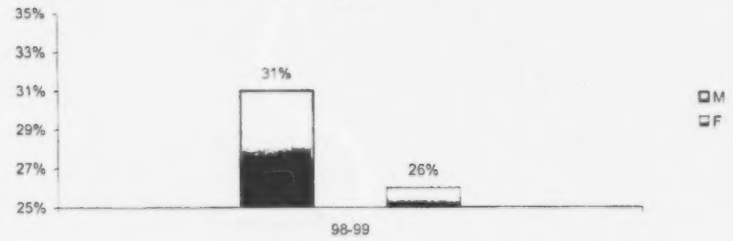
State Assessment Test Results Trends - SAT-9 Mathematics

♦ **Grade 10**

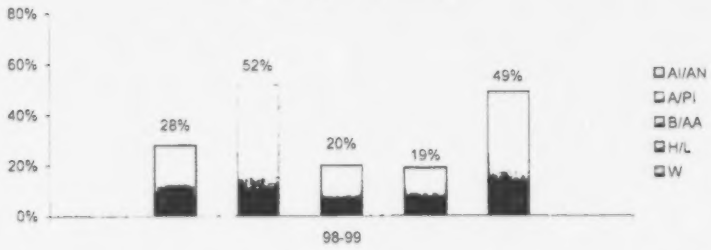
Quartile	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Top	.	.	.	.	.	8%	.
2nd	.	.	.	.	.	20%	.
3rd	.	.	.	.	.	31%	.
4th	.	.	.	.	.	41%	.
Total num of students	.	.	.	.	.	3,668	.



% Passing by Gender



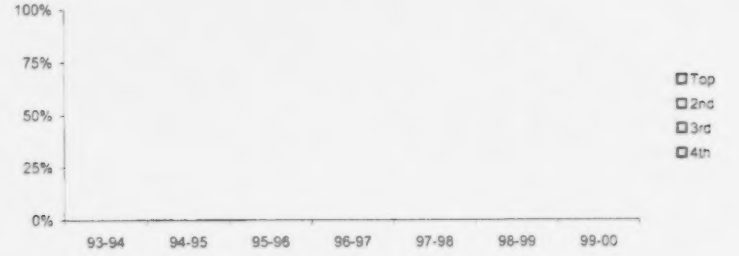
% Passing by Race/Ethnicity



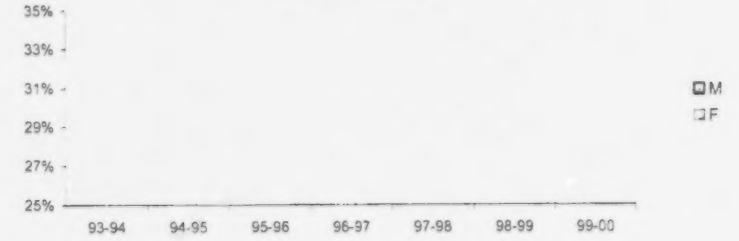
State Assessment Test Results Trends - Science

♦ **Grade 4**

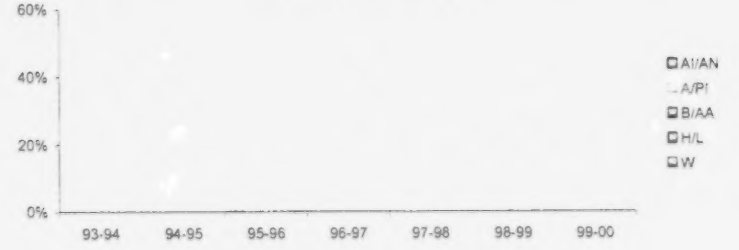
Quartile	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Top							
2nd							
3rd							
4th							
Total num of students							



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

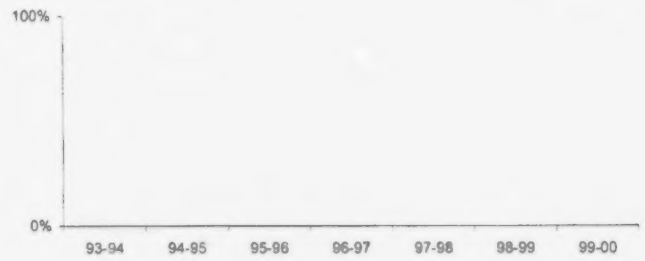
% Passing defined as Top Quartile + 2nd Quartile (.) Data Missing

Phoenix USI

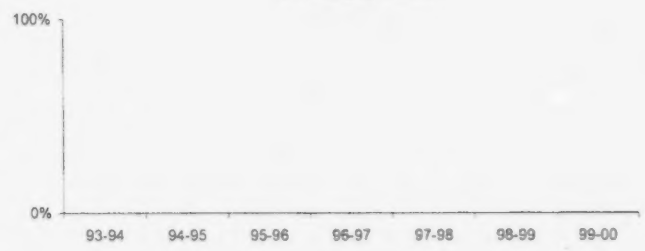
State Assessment Test Results Trends - Science

♦ **Grade 8**

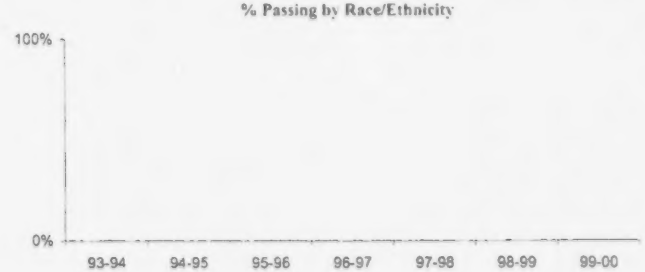
Quartile	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Top							
2nd							
3rd							
4th							
Total num of students							



% Passing by Gender



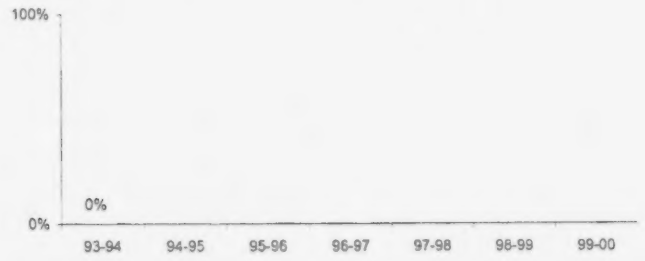
% Passing by Race/Ethnicity



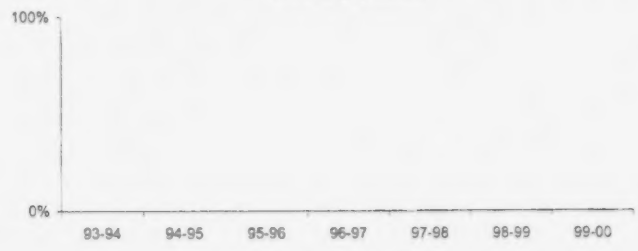
State Assessment Test Results Trends - Science

♦ **Grade 10**

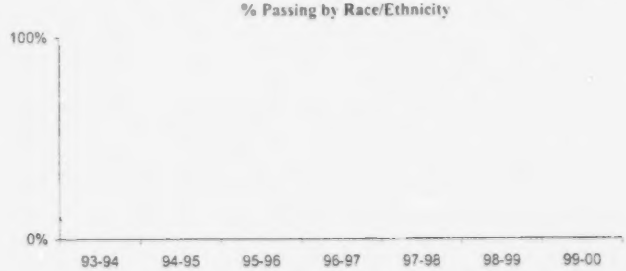
Quartile	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Top							
2nd							
3rd							
4th							
Total num of students							



% Passing by Gender



% Passing by Race/Ethnicity



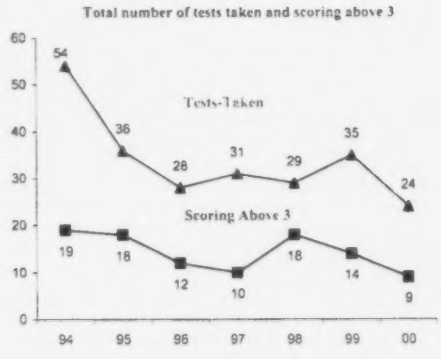
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

Phoenix USI

AP Mathematics Test Result Trends ♦ **AP Mathematics (Calculus AB, Calculus BC, & Statistics)**

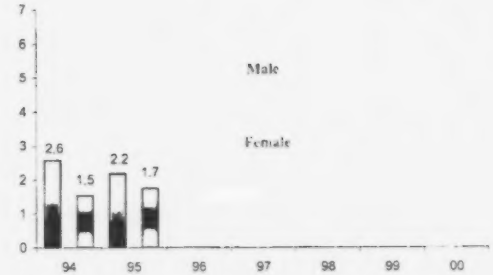
♦ **AP Mathematics - Total Number of Tests Taken**

		94	95	96	97	98	99	00
Total num of 11th & 12th students		9,222	9,170	.	.	.	.	.
Tests Taken	Calc. AB	51	35	27	30	29	35	24
	Calc. BC	3	1	1	1	0	0	0
	Statistics	0	0	0	0	0	0	0
	Total	**54**	**36**	**28**	**31**	**29**	**35**	**24**
Num of tests taken/1,000 stu.		5.9	3.9	.	.	.	.	.
Scoring Above 3		19	18	12	10	18	14	9
Num of Above 3/ 1,000 students		2.1	2.0	.	.	.	.	.



♦ **AP Mathematics - Number of Students Scoring Above 3 By Gender per 1,000 Students**

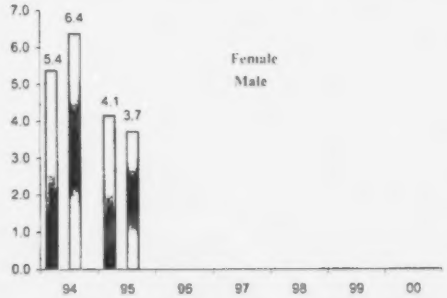
		94	95	96	97	98	99	00
Score Above 3 per 1,000	Male	2.6	2.2	.	.	.	.	.
	Female	1.5	1.7	.	.	.	.	.



♦ **AP Mathematics - Number of Tests Taken By Gender Per 1,000 Students**

		94	95	96	97	98	99	00
Tests Taken per 1,000	Male	5.4	4.1	.	.	.	.	.
	Female	6.4	3.7	.	.	.	.	.

Number of tests taken per 1,000 students by Gender



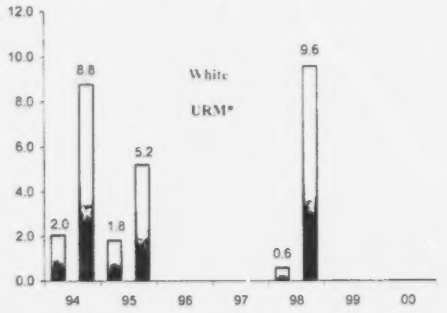
♦ **AP Mathematics - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students** [*1]

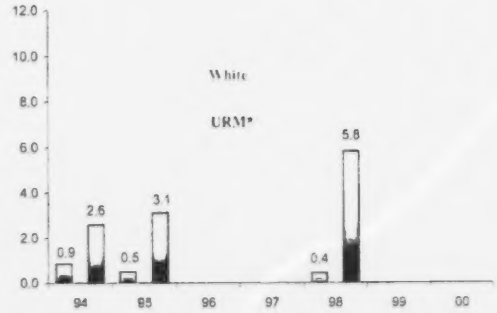
	94	95	96	97	98	99	00
AI/AN	0.0	0.0	.	.	0.0	.	.
A/PI	14.3	7.7	.	.	0.0	.	.
B/AA	0.2	0.0	.	.	0.0	.	.
H/L	11.5	8.4	.	.	0.5	.	.
W	2.6	3.1	.	.	5.8	.	.

♦ **AP Mathematics - Number of Tests Taken By Race/Ethnicity Per 1,000 Students** [*1]

	94	95	96	97	98	99	00
AI/AN	0.0	0.0	.	.	0.0	.	.
A/PI	25.1	15.3	.	.	0.0	.	.
B/AA	0.2	0.0	.	.	0.0	.	.
H/L	31.6	30.8	.	.	0.7	.	.
W	8.8	5.2	.	.	9.6	.	.

Number of tests taken per 1,000 students by Race/Ethnicity





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B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented
( ) Data missing

*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

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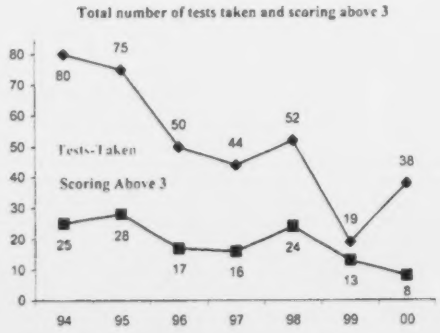
Phoenix USI

AP Science Test Result Trends ♦ AP Science (Biology, Chemistry, Environ. Sci., Phy. B, Phy. C Mech., & Phy. C Elec.)

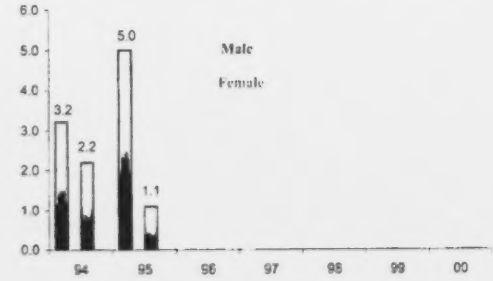
♦ **AP Science - Total Number of Tests Taken**

		94	95	96	97	98	99	00
Num of 11th & 12th students		9,222	9,170	.	.	.	.	.
Tests Taken	Biology	33	47	30	23	11	10	17
	Chem.	20	1	5	3	8	2	17
	Enviro. Sci.	0	0	0	0	0	0	0
	Physics B	20	15	15	18	33	7	4
	Ph. C Mech.	7	6	0	0	0	0	0
	Ph. C Elec.	0	6	0	0	0	0	0
	Total	**80**	**75**	**50**	**44**	**52**	**19**	**38**
Num of tests taken/1,000 stu.		8.7	8.2	.	.	.	.	.
Scoring Above 3		25	28	17	16	24	13	8
Num of Above 3/ 1,000 students		2.7	3.1	.	.	.	.	.



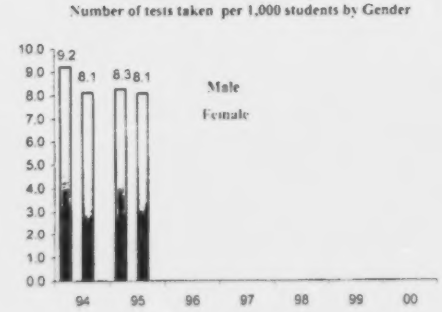
♦ **AP Science - Number of Students Scoring Above 3 By Gender per 1,000 Students**

		94	95	96	97	98	99	00
Score Above 3 per 1,000	Male	3.2	5.0	.	.	.	.	.
	Female	2.2	1.1	.	.	.	.	.



♦ **AP Science - Number of Tests Taken By Gender Per 1,000 Students**

		94	95	96	97	98	99	00
Tests Taken per 1,000	Male	9.2	8.3	.	.	.	.	.
	Female	8.1	8.1	.	.	.	.	.

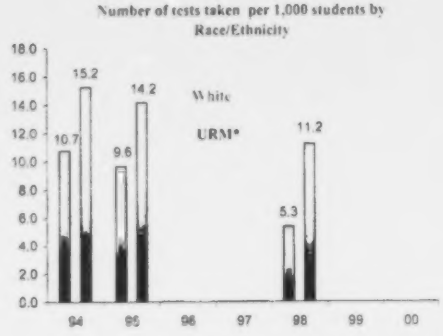


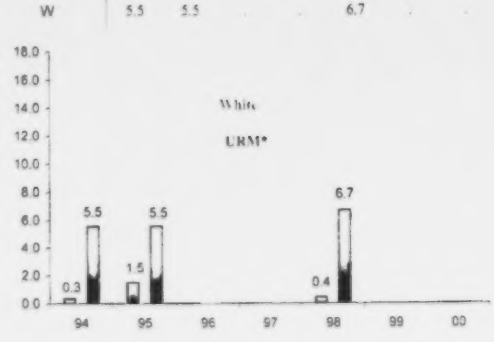
♦ **AP Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students** [*1]

	94	95	96	97	98	99	00
AI/AN	0.0	0.0	.	.	3.1	.	.
A/PI	10.8	0.0	.	.	0.0	.	.
B/AA	0.2	0.4	.	.	0.0	.	.
H/L	2.9	19.6	.	.	0.4	.	.
W	5.5	5.5	.	.	6.7	.	.

♦ **AP Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students** [*1]

	94	95	96	97	98	99	00
AI/AN	0.9	0.0	.	.	3.1	.	.
A/PI	28.7	26.8	.	.	13.8	.	.
B/AA	11.7	10.3	.	.	25.7	.	.
H/L	31.6	33.6	.	.	1.3	.	.
W	15.2	14.2	.	.	11.2	.	.





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B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented
(.) Data missing

*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

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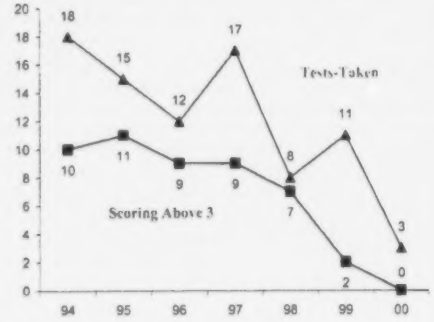
AP Computer Science Test Result Trends ♦ **AP Computer Science (Computer Science A & AB)**

♦ AP Computer Science - Total Number of Tests Taken

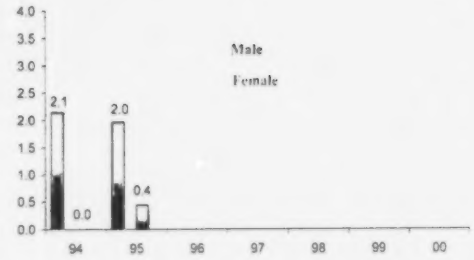
		94	95	96	97	98	99	00
Num of 11th & 12th students		9,222	9,170	.	.	.	.	.
Tests Taken	Comp. Sci A	14	10	10	12	4	8	2
	Comp. Sci. AB	4	5	2	5	4	3	1
	Total	**18**	**15**	**12**	**17**	**8**	**11**	**3**
Num of tests taken/1,000 stu.		2.0	1.6	.	.	.	.	.
Scoring Above 3		10	11	9	9	7	2	0
Num of Above 3/ 1,000 students		1.1	1.2	.	.	.	.	.

Total number of tests taken and scoring above 3



♦ AP Computer Science - Number of Students Scoring Above 3 by Gender per 1,000 Students

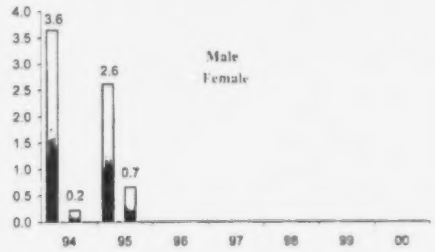
		94	95	96	97	98	99	00
Score Above 3 per 1,000	Male	2.1	2.0	.	.	.	.	.
	Female	0.0	0.4	.	.	.	.	.



♦ AP Computer Science - Number of Tests Taken By Gender Per 1,000 Students

		94	95	96	97	98	99	00
Tests Taken per 1,000	Male	3.6	2.6	.	.	.	.	.
	Female	0.2	0.7	.	.	.	.	.

Number of tests taken per 1,000 students by Gender



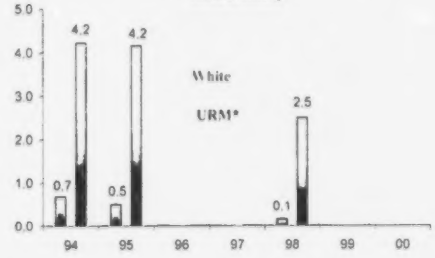
♦ AP Computer Science - Number of Students Scoring Above 3 by Race/Ethnicity per 1,000 Students[*1]

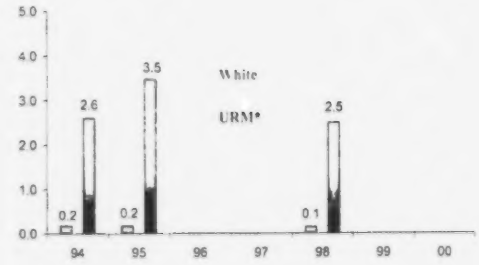
	94	95	96	97	98	99	00
AI/AN	0.0	0.0	.	.	0.0	.	.
A/PI	0.0	0.0	.	.	0.0	.	.
B/AA	0.0	0.0	.	.	0.0	.	.
H/L	2.9	2.8	.	.	0.2	.	.
W	2.6	3.5	.	.	2.5	.	.

♦ AP Computer Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students[*1]

	94	95	96	97	98	99	00
AI/AN	0.0	0.0	.	.	0.0	.	.
A/PI	0.0	0.0	.	.	4.6	.	.
B/AA	0.5	0.0	.	.	0.0	.	.
H/L	5.7	8.4	.	.	0.2	.	.
W	4.2	4.2	.	.	2.5	.	.

Number of tests taken per 1,000 students by Race/Ethnicity





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[*1] "Other" category not presented
(.) Data missing

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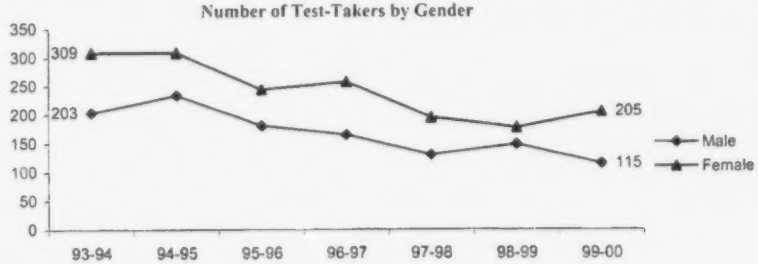
Phoenix USI

ACT Test-Takers

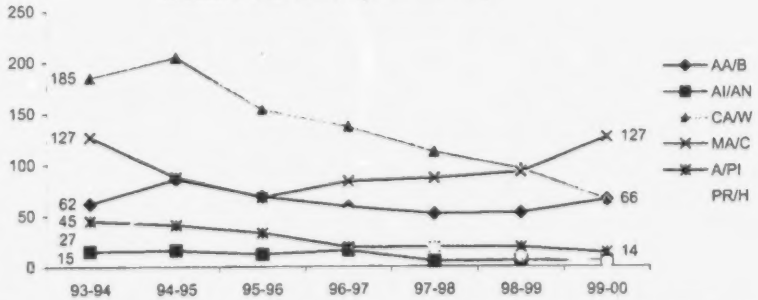
♦ Number of Test-Takers

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students *1		4,765	4,706	.	.	4,798	.	.
Test-Takers		512	543	425	422	325	325	321
Num of Test-Takers/1,000 Stu.		107	115	.	.	68	.	.
Gender	Male	203	234	181	165	130	148	115
	Female	309	309	244	257	195	177	205
Race/Ethnicity	AA/B	62	86	69	59	52	53	66
	AI/AN	15	16	12	16	5	6	6
	CA/W	185	205	154	137	112	96	66
	MA/C	127	88	68	84	87	93	127
	A/PI	45	41	33	19	19	19	14
	PR/H	27	60	52	53	18	10	4

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity

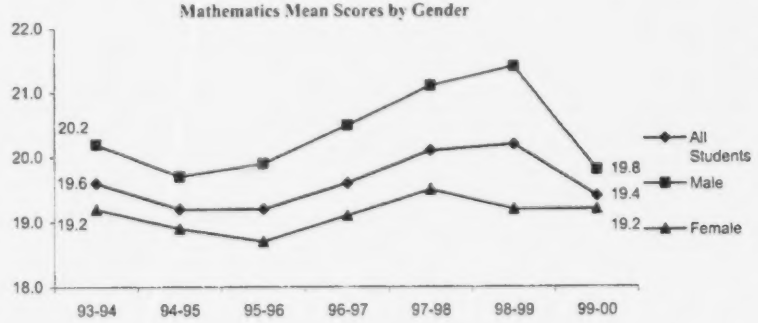


ACT Mathematics Scores

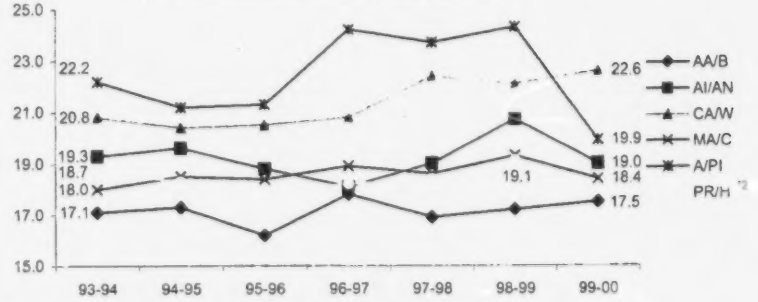
♦ Mathematics - Mean Score Trends

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		19.6	19.2	19.2	19.6	20.1	20.2	19.4
Gender	Male	20.2	19.7	19.9	20.5	21.1	21.4	19.8
	Female	19.2	18.9	18.7	19.1	19.5	19.2	19.2
Race/Ethnicity	AA/B	17.1	17.3	16.2	17.8	16.9	17.2	17.5
	AI/AN	19.3	19.6	18.8	18.1	19.0	20.7	19.0
	CA/W	20.8	20.4	20.5	20.8	22.4	22.1	22.6
	MA/C	18.0	18.5	18.4	18.9	18.6	19.3	18.4
	A/PI	22.2	21.2	21.3	24.2	23.7	24.3	19.9
	PR/H *2	18.7	18.3	17.9	18.2	18.4	19.1	-

Mathematics Mean Scores by Gender



Mathematics Mean Scores by Race/Ethnicity



AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.
(.) Data Missing

*2 Mean score not presented for sample size less than 5

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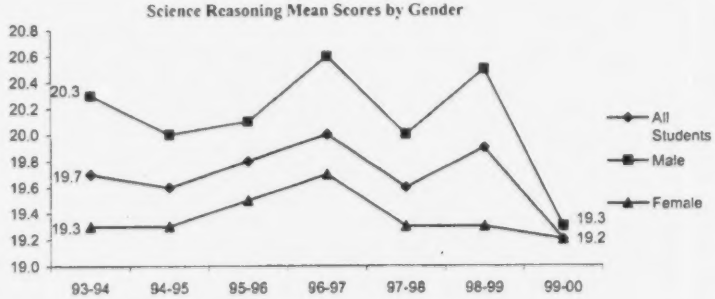
ACT Science Reasoning Scores

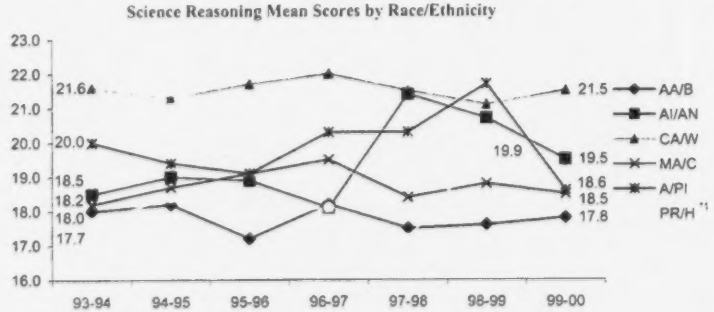
- **Science Reasoning - Mean Score Trends**

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		19.7	19.6	19.8	20.0	19.6	19.9	19.2
Gender	Male	20.3	20.0	20.1	20.6	20.0	20.5	19.3
	Female	19.3	19.3	19.5	19.7	19.3	19.3	19.2
Race/Ethnicity	AA/B	18.0	18.2	17.2	18.2	17.5	17.6	17.8
	AI/AN	18.5	19.0	18.9	18.1	21.4	20.7	19.5
	CA/W	21.6	21.3	21.7	22.0	21.5	21.1	21.5
	MA/C	18.2	18.7	19.1	19.5	18.4	18.8	18.5
	A/PI	20.0	19.4	19.1	20.3	20.3	21.7	18.6
	PR/H *1	17.7	18.4	17.9	18.1	17.2	19.9	-

Science Reasoning Mean Scores by Gender



Science Reasoning Mean Scores by Race/Ethnicity



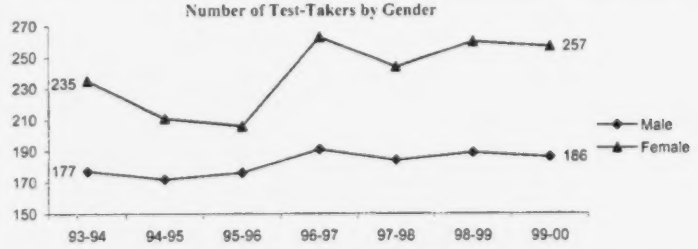
AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White
MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.
*1 Mean score not presented for sample size less than 5

SAT Test-Takers

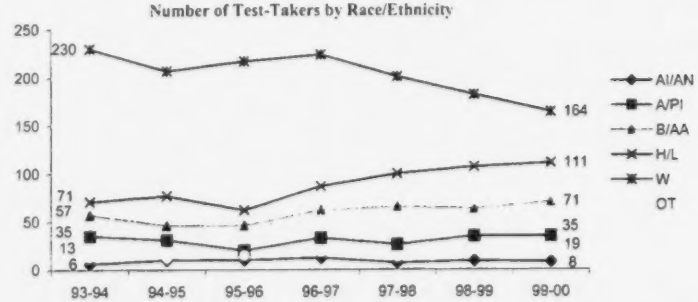
- **Number of Test-Takers**

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students *2		4,765	4,706	.	.	4,798	.	.
Test-Takers		412	383	382	454	428	449	443
Num of Test-Takers/1,000 Stu		86	81	.	.	89	.	.
Gender	Male	177	172	176	191	184	189	186
	Female	235	211	206	263	244	260	257
Race/Ethnicity	AI/AN	6	10	10	12	7	9	8
	A/PI	35	31	20	33	26	35	35
	B/AA	57	46	46	62	66	64	71
	H/L	71	77	62	87	100	107	111
	W	230	207	217	224	201	182	164
	OT	13	12	15	18	13	23	19

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American
H/L: Hispanic or Latino W: White OT: Others
(.) Data Missing

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Phoenix USI

SAT Mathematics Scores

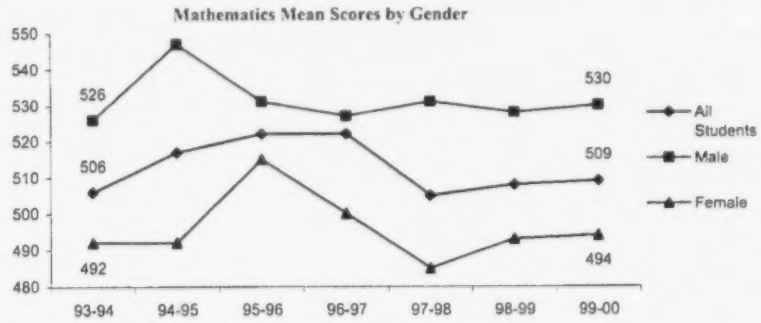
♦ **Mathematics - Mean Score Trends**

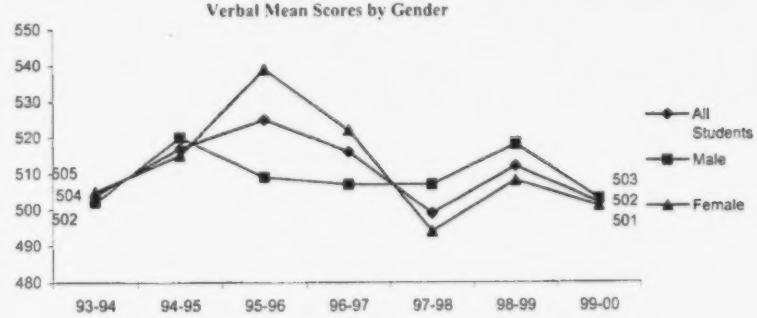
		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		506	517	522	522	505	508	509
Gender	Male	526	547	531	527	531	528	530
	Female	492	492	515	500	485	493	494
Race/Ethnicity	AI/AN	487	490	522	462	519	471	473
	A/PI	544	519	531	545	525	556	536
	B/AA	441	470	418	429	421	414	428
	H/L	475	486	494	482	466	485	482
	W	528	541	548	543	549	542	552
	OT	536	497	551	504	507	496	522

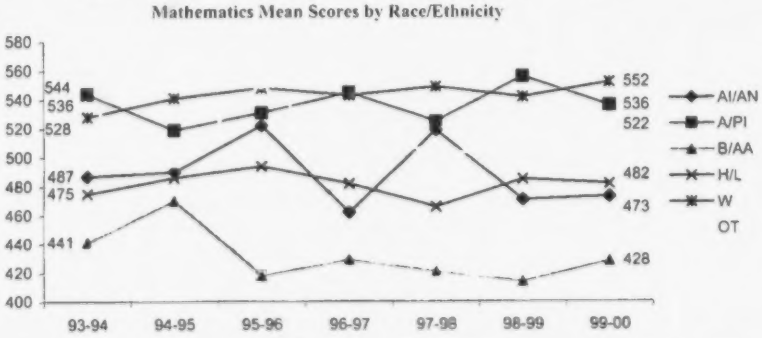
SAT Verbal Scores

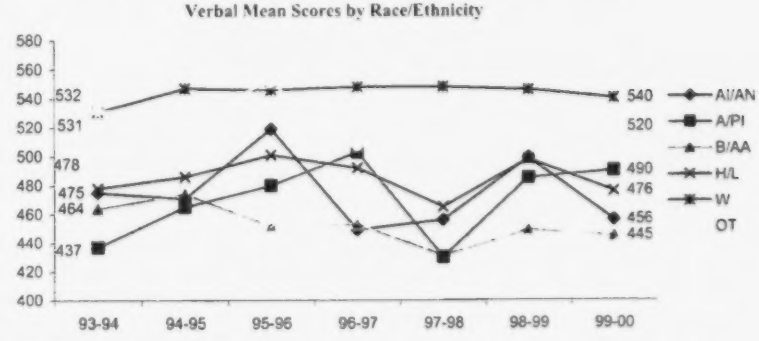
♦ **Verbal - Mean Score Trends**

		93-94	94-95	95-96	96-97	97-98	98-99	99-00
All Students		504	517	525	516	499	512	502
Gender	Male	502	520	509	507	507	518	503
	Female	505	515	539	522	494	508	501
Race/Ethnicity	AI/AN	475	471	519	449	456	499	456
	A/PI	437	465	480	503	430	485	490
	B/AA	464	474	452	453	431	449	445
	H/L	478	486	501	492	465	498	476
	W	531	547	546	548	548	546	540
	OT	532	530	551	507	506	518	520









AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

Phoenix USI

Cohort/Scale-Up Approach

	94-95	95-96	96-97	97-98	98-99	99-00
Number of Schools*:	*120*	*120*	*120*	*120*	120	*120*
USI Schools**:	0	0	83	0	119	0
% Schools in USI Districts:	0%	0%	69%	0%	99%	0%

*Core Data Elements 2000; **K-1 1999 *Italics:* Data Imputed

Primary Decision Making Body

Standards Curriculum	State
Curriculum/TextBook Adoption	District
Student Assessment	State
Professional Development	District
Resources	District
Teacher Hiring	District
Teacher Contracts	District
Certification & Re-certification	State
Graduation Requirements	District
School-Based Management?	Yes

Policies Promoting Equal Access by All Students in High Quality Education

Student Tracking:
- No placement tests

Criteria for Entry into High Level Mathematics and Science Courses:
- Open entry

Availability of High Level Courses:
- All students enrolled in standards-based programs: IGAM Mathematics, Science & Technology Education policy

Special Education and Bilingual Students:
- Taught same standards-based program as all others

Policies Impacting the Enrollment of Students in Challenging Math and Science Courses

Attendance :

Guidance:

Student Support Systems:
- Mathematics support strategies in high schools

Primary Instructional Strategies:
- 25% instructional time for science inquiry
- 2 technology design tasks per grade each year
- 3 instructional strands (earth, life,physical science) per year
- Inquiry, hands-on, cognitively guided
- Students design and conduct investigations

Policies Relevant to Curriculum

Framework:
- USI standards-based curriculum

Curriculum Policy:
- Policy IGAM Mathematics, Science & Technology
- Unitary Program in K-G12 mathematics and science

Instructional Time:

% of Students Experiencing Standards-based Mathematics Curriculums: E: 100% M: 100% H:

% of Students Experiencing Standards-based Science Curriculums: E: 100% M: 100% H: 100%

Standards-based Curriculum and Instruction

Standards Adopted:
- National Council of Teachers of Mathematics
- National Science Education
- AAAS Benchmarks for Science Literacy
- Arizona Department of Education Academic Standards

Curriculums Adopted:
- Full Option Science System (FOSS)
- Science and Technology for Children (STC)
- Interactive Mathematics Program (IMP)
- Science Education for Public Understanding (SEPUP)
- Science Improvement Curriculum Study (SICS3)
- Science Plus
- Delta
- Insights
- Science Plus

Policies Relevant to Teacher Qualifications

Certification:
- Classroom assignments based on certification status of teacher

Requirement & Hiring Practices
- Rigorous preservice teacher education

Professional Advancement & Leadership Training:
- High quality leadership development for Collaborative Peer Teachers, teacher leaders and principals

Contract Requirements:
- Teacher evaluation system consistent with educational research

E: Elementary School M: Middle School H: High School

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Professional Development Policies and Practices

Time Required or Supported:	
Financial Resources Provided:	• Almost $50 million in district, state and federal funds realigned to support math, science, technology
Alignment to Student Standards:	• All Professional Development aligned to national math/science standards
Measurement of Impact:	
Other:	• Administrators (principals and assistant principals) engaged in professional development • Professional Development continually revised to meet content and pedagogy needs with 75% of all teachers engaged
Type and Amount Received by Average Math/Science Teacher:	• Focused on specific content and pedagogy; delivered both system-wide and school-based • Offered in 45 - 75 hour modules • Technology training • Cognitively Guided Instruction
Evaluation Instruments:	• Horizon Research Inc (HI) classroom observation protocols • Concerns-based Adoption Model (CAM) Levels of Use interviews • School Profiling protocols • Professional Development surveys
Professional Development Alignment to Content Standards Measures:	• University-district teams review curriculum/standards • Outside technical assistance review in mathematics
Teacher's Instructional Practices Evaluation:	• Horizon Research, Inc. (HRI) Classroom Observation Protocol and Concerns Based adoption Model Level of Use (CBAM) interview used to determine degree of curriculum implementation
Impact on Student Achievement:	• Stanford Achievement Test (SAT-9) mathematics and science scores • California Systemic Initiative Assessment Collaborative (CSIAC) science scores

Policies Relevant to Standards-based Assessments

Extent to Which Assessments are Aligned to District Standards and Curriculums:	• 33% of G8 curriculum aligned with Stanford Achievement Test (SAT-9) • California Systemic Initiative Assessment Collaborative (CSIAC) totally aligned with standards
Methods stakeholders are informed of goals, objectives and accomplishments of assessment program:	• Feedback from classroom teachers, Collaborative Peer Teachers and teacher leaders • School newsletters • District newletters • USI brochures • Newspaper articles

USI Leadership, Governance, and Management

Superintendent:	• 1994-97: Council of Superintendents Management Leadership Team (MLT) One superintendent served as Co-PI Community college vice chancellor served as PI • 1997-99: Council of Superintendents and Management Leadership team (MLT) consolidated in 6/97 to form Unitary Management Team which met monthly to discuss and approve project activities In Year 3, Rene Diaz, Phoenix Union High School District superintendent became PI and two elementary superintendents became Co-PI's
USI Office:	• 1994-97: Dr. Ernest Ramirez, Jr., (Director of CRCM) is Project Director • 1997-99: Dr. Susan Holt-Maas appointed as Project Co-Director, 9/97 District curriculum leadership assumed much of work previously done by USI specialists
Community Key Personnel:	• Key personnel from business and Arizona Science Center serve on Unitary Management Team
Teacher Leaders:	• Collaborative Peer Teachers

Phoenix USI

Partnerships

Other Key Initiatives:

Community Stakeholders:

Higher Education:
- Maricopa Community College District
- Arizona State University
- Northern Arizona University

Business and Industry:
- Motorola
- APS (public utility)
- Arizona Science Center
- Texas Instruments

Other Partnerships:

Policy Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	• No specific policies supporting standards-based mathematics and science
1994-95	• No changes reported
1995-96	• No changes reported
1996-97	• Discontinue 9th grade mathematics placement test given in the 8th grade
1997-98	• Adopted policies that support full implementation of the Unitary Curriculum K-12 in science and mathematics • Adoption of specific policy "Mathematics, Science and Technology" • Recruit, hire and retrain teachers who demonstrate the behavior and practices aligned to Unitary Curriculum requirements • Graduation Requirement: student must pass state Arizona's Instrument to Measure Standards (AIMS) test in reading, writing and mathematics
1998-99	• Increase graduation requirement from 2 years of mathematics to 3

Curriculum and Instruction Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	• Standards-based curriculum not defined or articulated across districts • No common policies across districts supporting standards-based mathematics and science • No unitary curriculum content or pedagogy • No standards-based instructional materials common across districts
1994-95	• No changes reported
1995-96	• No changes reported
1996-97	• Adoption of K-12 unitary, standards-based curriculum in mathematics and science
1997-98	• K-12 Standards-based curricula implementation based on: National Council of Teachers of Mathematics Standards, National Science Education Standards, AAAS Benchmarks for Science Literacy, and Arizona Department of Education Academic Standards • Adoption and implementation of standards-based mathematics and science instructional materials
1998-99	• No changes reported

Professional Development Policy and Program Changes to Support Teachers During USI Implementation

School Year	Policy Implemented
Before USI	•Each district held its own professional development workshops mostly focusing on instructional strategies in mathematics •Little or no hands-on science professional development was occurring •Not much focus on content •Professional development often centered on implementing current instructional materials
1994-95	•Leadership development in content and pedagogy of mathematics and science for 21 Collaborative Peer Teachers •Professional development in content and pedagogy of standards-based mathematics and science
1995-96	•Leadership Forums for school principals and assistants focusing on standards and expectations for mathematics and science •Continuation of leadership development for 21 additional Collaborative Peer Teachers
1996-97	•No
1997-98	•Engage administrators (principals and vice-principals) in professional development activities that expand their skills to support teachers to fully implement the Unitary Curriculum •Professional development focus shifted from individual to team approach •Internal evaluation system- Horizon Research, Inc. (HRI) Classroom Observation Protocol and Concerns Based adoption Model Level of Use (CBAM) interview used to determine degree of curriculum implementation •Increase teacher preservice mathematics requirement from 3 to 6 credit hours •Professional development redesigned to be more content specific and data driven •Site team training- purpose is to institutionalize decision making processes and practices to support full implementation of curriculum
1998-99	•Implementation of K-12 Leadership Academies in mathematics, science and technology

Standards-based Assessment System Changes During USI Implementation

School Year	Policy Implemented
Before USI	• No common assessment practices across districts •State testing program: *Fall: G4, 7, 10 (Iowa Test of Basic Skills) *Spring: G3, 8, 12 (Reading/Mathematics/ Writing Performance Assessments)
1994-95	• Iowa Test of Basic Skills (ITBS) - G4,7,10 administered in fall •Mathematics performance assessments - G3, 8, 12 administered in spring
1995-96	•No changes reported
1996-97	•Adoption of Stanford Achievement Test (SAT-9) mathematics testing for G3 - 12 •Adoption of California Systemic Initiative Assessment Collaborative (CSIAC) science assessment for G5, 8, 10 •Iowa Test of Basic Skills (ITBS) discontinued
1997-98	•No changes reported
1998-99	•Added Stanford 9 Science (multiple choice and open-ended) in grades 4, 8, 10 - sample

USI

Urban Systemic Initiatives

Program Funded by National Science Foundation

Urban School Key Indicators of Science and Mathematics Education: 2001

Volume II Cohort 94 School Districts

Cleveland
Columbus
Fresno
Los Angeles
Memphis
New Orleans
Philadelphia

USI EVALUATIVE STUDY

How Reform Works:
An Evaluative Study of NSF's Urban Systemic Initiatives

March 2002

Based on Key Indicator Data System (KIDS-2001)

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How Reform Works:
An Evaluative Study of NSF's Urban Systemic Initiatives

Urban School Key Indicators of Science and Mathematics Education: 2001

Based on Key Indicator Data System (KIDS-2001)

Urban Systemic Initiatives Funded by the
National Science Foundation

Volume II :
Cohort 94 School Districts

March 2002

Systemic Research, Inc.

The preparation of this report was sponsored by the National Science Foundation, Directorate for Education and Human Resources, Division of Research, Evaluation and Communication, under Grant No. REC-9874322.

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The Report is also available on the World Wide Web: **www.systemic.com/usi** or **www.sistudyforum.org**

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In collaboration with
Educational Testing Service
The College Board
ACT, Inc.

With the assistance of
PIs, PDs, Data Managers and Evaluators of 22 USI Sites.

For the

National Science Foundation

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Any opinions, findings, and conclusions or recommendations expressed in this report are those of the participants and do not necessarily represent the official views, opinions, or policy of the National Science Foundation

ISBN 0-9702968-2-7

Designed by Eun Ae Park

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About USI and KIDS

In 1994, NSF launched the Urban Systemic Initiative (USI) program, applying lessons learned from its initial State Systemic Initiative (SSI) program to the problems of inner-city school systems. The USI program was offered to major cities with the largest number of K-12 students living in poverty. Five cohorts of cities signed cooperative agreements with NSF for a five-year concerted system-wide effort to promote standards-based reform in mathematics, science, and technology (MST). The NSF investment was meant to be a catalyst for large-scale educational change affecting standards, curriculum, assessment, professional development, partnerships, and convergence of intellectual and fiscal resources, with constant attention to improving student achievement. NSF's focus on results has become even stronger following passage of the Government Performance and Results Act (GPRA). Over the course of its systemic initiative programs, NSF has developed a theoretical structure for systemic reform that is based on six "drivers" including four process drivers and two student outcome drivers, as well as a number of cross-cutting issues such as equity, quality, scaling up, coordination and organization.

Systemic Research, Inc. received a three year grant to explore the impact of the NSF's USI program on student achievement and the learning infrastructure in urban school districts by examining relationships among the process drivers (factor, or independent variables) and outcome drivers (system output, or dependent variables). The intent was to establish an inferential causal structure that allows reasonable attribution of impacts to program elements. Results of the study allow broader dissemination of successful systemic initiative models based on a "reverse engineering" approach.

As a vital instrument for systemic analysis, our evaluative study team developed a Key Indicator Data System (KIDS) to collect comprehensive annual core data using both quantitative (K-1: focused on demographics, student outcomes, and teacher preparations) and qualitative (K-2: focused on policies relevant to six drivers) templates. KIDS was tailored to each cohort/ site due to the differences in USI timelines, curriculum structure, and student assessment systems.

With the cooperation from 22 USI sites (PIs/PDs, data managers, and local evaluators), as well as collaboration from the Educational Testing Service, The College Board, and ACT, Inc., our study team completed KIDS data collection. The qualitative data was also compiled/extracted from the individual Annual Reports and PER documents collected from all 22 sites during the project period.

The three-volume Urban School Key Indicators of Science and Mathematics Education: 2001 presents the essence of each USI's progress based on KIDS-1999, 2000, and 2001 from each site's baseline year to SY 1999-00. This report replaces Urban School Key Indicators of Science and Mathematics Education: Based on Key Indicator Data System (KIDS-1999), Volumes I-IV.

Please refer to our evaluative study web site http://www.systemic.com/usi or the Systemic Initiative (SI) study group web site http://www.sistudyforum.org for details of study progress and available electronic version of various study reports.

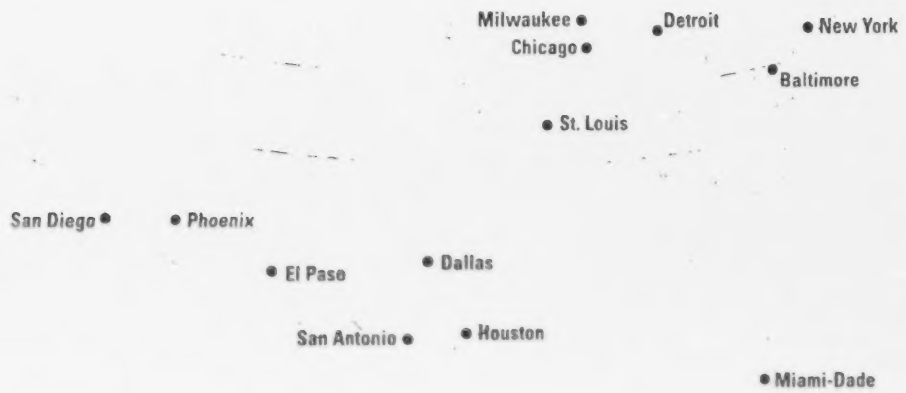
Urban Systemic Initiatives

USI School Districts by Cohort

Cohort 93	
Baltimore	Cleveland
Chicago	Columbus
Dallas	Fresno
Detroit	Los Angeles
El Paso	Memphis
Miami-Dade	New Orleans
New York	Philadelphia
Phoenix	

Cohort 95	
Milwaukee	Atlanta
San Antonio	Jacksonville
San Diego	
St. Louis	

Cohort 99
Houston



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Urban Study Publications by Systemic Research, Inc.

Studies Funded by the National Science Foundation

What Matters in Urban School Reform, Study Monograph No. 1, by M. Ware, L. Richardson, & J. Kim, Systemic Research, Inc., March 2000.

Survey Results of Urban School Classroom Practices in Mathematics and Science: 1999 Report, Study Monograph No. 2, by R. Blank, J. Kim, and J. Smithson, Systemic Research, Inc., June 2000.

Urban School Key Indicators of Science and Mathematics Education: Based on Key Indicator Data System (KIDS-1999), Volume I, II, III, IV, and Appendix, by J. Kim, H. Lee, L. Crasco, D. Lee, A. Karantonis, and D. Leavitt, Systemic Research, Inc., September 2000.

Survey Results of Urban School Classroom Practices in Mathematics and Science: 2000 Report, Study Monograph No. 3, by J. Kim, L. Crasco, R. Blank, & J. Smithson, Systemic Research, Inc., April 2001.

Academic Excellence for All Urban Students: Their Accomplishment in Science and Mathematics, J. Kim, L. Crasco, R. Smith, G. Johnson, A. Karantonis, & D. Leavitt, Systemic Research, Inc., April 2001.

Raising Standards and Achievement in Urban Schools: Case Stories from CPMSAs in Hamilton/Chattanooga and Newport News Public Schools, a report from the Comprehensive Partnerships for Mathematics and Science Achievement (CPMSA) evaluative study, by J. Kim, P. Richmond, L. Crasco, N. Libbus, G. Johnson, and A. Karantonis, Systemic Research, Inc., January 2002.

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School District Progress Report

March 2002

Cleveland

Urban School Key Indicators of Science and Mathematics Education: 2001

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Cleveland USI

Project Information

USI Project Title : Cleveland USI
Cohort: 94 (Sept. 95 - Aug. 00)
USI Web Site:

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♦ USI Schools Math & Sci. Teachers and Students

99-00	Schools	Teachers	Students
K-G5 (Elementary)	82	2,077	40,729
G6-8 (Middle)	23	268	15,986
G9-12 (High)	17	262	14,716
Total	122	2,607	71,431

*1 Values Imputed from SY 1998-99

Project Summary

Cleveland's Urban Systemic Initiative (CUSI) is the mathematics and science component of a Blueprint for Change and VISION 21, the district's master plan for educational improvements. The purpose of the initiative is to reform the district's mathematics, science, and technology education program for grades K-12 and to close the achievement gap between Cleveland's students and those of neighboring school districts. To achieve its goals, Cleveland has targeted eight areas for reform.

These areas form the components of Cleveland's operational plan:
Component 1. Data Management Component 2. Policy and Regulations Alignment Component 3. School-Site Leadership
Component 4. Alignment of Curriculum, Instruction, and Assessment Component 5. Student Outcomes
Component 6. Student Support Systems Component 7. Professional Development for All Teachers and All Administrators
Component 8. Collaborations with Parents and Community Partners

Project Goals

- To develop a coordinated system of data retrieval management and analysis with the various data sources in the district to support the data needs of science, mathematics, and technology (SMT).
- To identify new or amended policy recommendations to support and strengthen the district's mathematics/science technology reform.
- To strengthen school-site leadership.
- To implement a student- and problem-centered, national standards-based SMT curriculum that includes direct assessment.
- To offer an extensive student support system, enhanced by flexible scheduling.
- To provide professional development for all teachers and administrators.
- To develop collaborations with parents and other community partners.

Selected School Indicators (District Average)

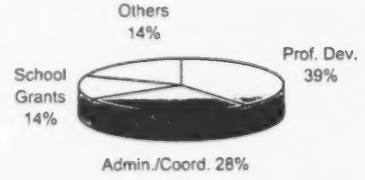
	95-96	99-00	Change
%Special Ed.	·	12.6%	·
%LEP	4.0%	5.3%	+1.3 PP
%FRL	75.8%	79.3%	+3.5 PP
%Daily Ave. Atten.	·	78.3%	·
%Ave. Retained*1	90.3%	84.3%	-6.0 PP
%Drop-Out*1	12.0%	15.7%	+3.7 PP
%Mobility*1	22.4%	9.1%	-13.3 PP
Per Pupil Cost ($)*1	$6,076	$5,787	-4.8%
Num of Students Per Computer*1	500	7	-98.6%
% Classrooms Internet Access*1	1.0%	12.0%	+11.0 PP
Average Class Size*1	24	23	-4.2%

(·) Data Missing PP: Percentage Points

District and USI Fund Utilization (SY 1998-99)

	District	USI
Prof. Dev.	43%	39%
Admin./Coord.	10%	28%
School Grants	10%	14%
Others	37%	19%
Total	100%	100%

USI Funds %



Cleveland USI

Student Demographics (SY 1999-00)

District Total:	78,910	
USI Schools:	71,431	91%

♦ Race/Ethnicity

	94-95	99-00	%	% Change
Ame. Ind./Ala. Nat.	196	285	0.4%	+45.4%
Asian/P. Islander	826	595	0.8%	-28.0%
Black	52,040	56,814	72.0%	+9.2%
Hispanic	5,593	6,153	7.8%	+10.0%
White	16,181	14,585	18.5%	-9.9%
Other	180	478	0.6%	+165.6%
Total	75,016	78,910		+5.2%
URM Total	57,829	63,252	80.2%	+9.4%

URM: Underrepresented Minority students.

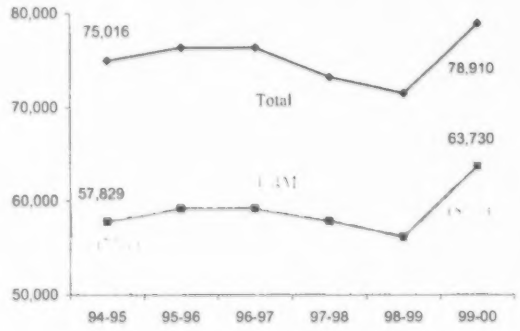
♦ Gender

Male	38,428	40,086	50.8%	+4.3%
Female	36,588	38,824	49.2%	+6.1%

♦ Grade

K-G5	38,287
G6-8	17,665
G9-12	19,064
Ungraded	0

♦ District-Wide Student Demographic Trends



12th Grade Graduates

	94-95	98-99	Change
Total 12th Grade	2,808	2,270	-19%
Earned a Diploma	1,851	2,053	+11%
% Earned Diploma	66%	90%	+24 PP

% Earned Diploma

90%

College Entrance

	94-95	98-99	Change
2 Yr College	407	472	+16%
4 Yr College	555	595	+7%
Other Post-Secon.	·	·	·
Total C. E.	962	1,067	+11%
% C. E./Earned Dip.	52%	52%	+0 PP

% College Entrance

52%

High School Graduation Requirements SY 99-00

- Mathematics
  3 Years in Mathematics
- Science
  2 Years in Science
- Other
  Students must pass 4th grade and 10th grade Ohio Profiency Test

(·)Data Missing PP: Percentage Points

Math and Science Teachers & Certification

♦ Mathematics (G6-12)

		94-95	97-98	Change
G6-8	Teachers	·	514	·
	Certified	·	·	·
	% Cert.	·	·	·
G9-12	Teachers	·	795	·
	Certified	·	·	·
	% Cert.	·	·	·
Total	Teachers	·	1309	·
	Certified	·	·	·
	% Cert.	·	·	·

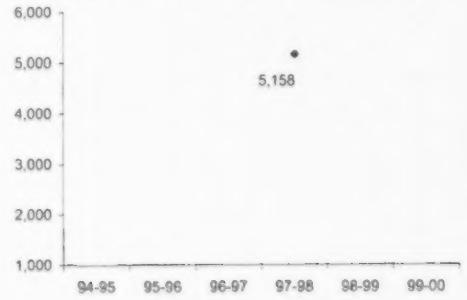
♦ Science (G6-12)

		94-95	97-98	Change
G6-8	Teachers	·	514	·
	Certified	·	·	·
	% Cert.	·	·	·
G9-12	Teachers	·	530	·
	Certified	·	·	·
	% Cert.	·	·	·
Total	Teachers	·	1,044	·
	Certified	·	·	·
	% Cert.	·	·	·

♦ Math and Science (K-G5)

		94-95	97-98	Change
K-G5	Teachers	·	2805	·

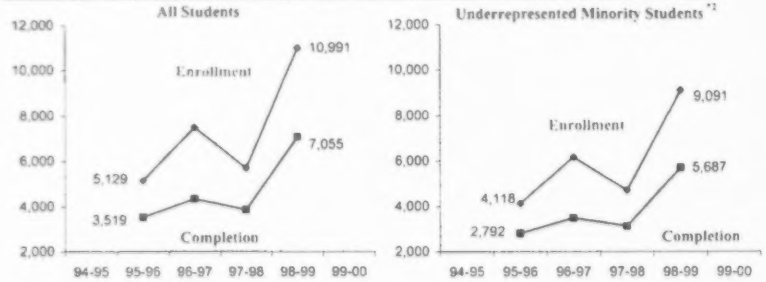
Total Number of Math and Sci. Teachers (K-G12)



Mathematics and Science Enrollment & Completion Trends/ All vs. URM

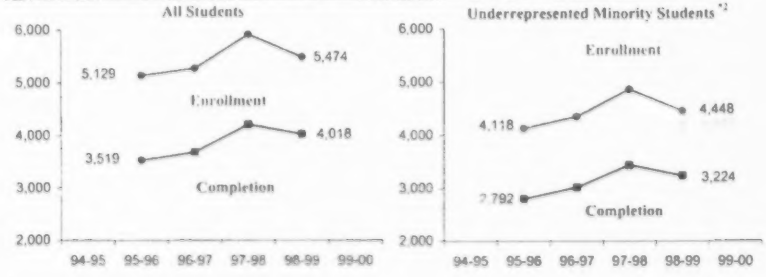
G 9-12 Mathematics Gate-Keeping Courses (Algebra II, Geo., and Calculus)

		94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		19,064	19,461	18,012	17,641	16,034	.
All Students	Enrollment	.	5,129	7,497	5,689	10,991	.
	Completion *1	.	3,519	4,327	3,847	7,055	.
	% Enroll/ G9-12		26%	42%	32%	69%	.
URM *2	Enrollment	.	4,118	6,151	4,693	9,091	.
	Completion *1	.	2,792	3,479	3,111	5,687	.
	% Enroll/ G9-12	.	27%	41%	33%	69%	.



G 9-12 Science Gate-Keeping Courses (Biology 1, Chem. 1, and Physics 1)

		94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		19,064	19,461	18,012	17,641	16,034	.
All Students	Enrollment	.	5,129	5,266	5,910	5,474	.
	Completion *1	.	3,519	3,676	4,200	4,018	.
	% Enroll/ G9-12	0%	26%	29%	34%	34%	.
URM *2	Enrollment	.	4,118	4,345	4,853	4,448	.
	Completion *1	.	2,792	3,007	3,430	3,224	.
	% Enroll/ G9-12	.	27%	29%	35%	34%	.



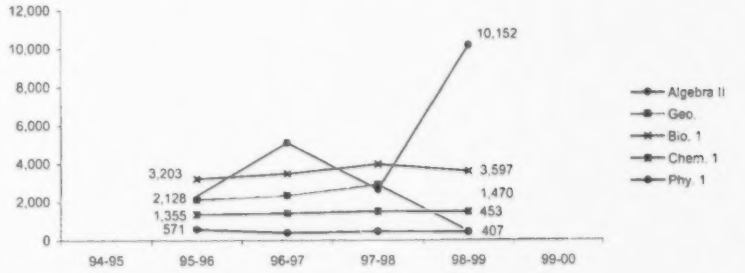
*1 Successful completion: grade 'D' or above.

*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Mathematics and Science Enrollment & Completion Trends By Subject

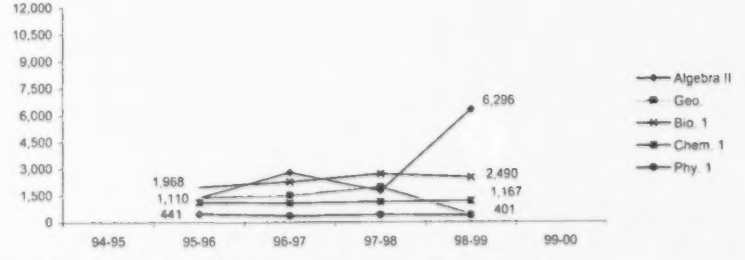
G 9-12 Course Enrollment (All Students)

	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
94-95	.	.	.	.	.	.	.	.
95-96	2,322	2,128	97	4,547	3,203	1,355	571	5,129
96-97	5,096	2,341	60	7,497	3,474	1,407	385	5,266
97-98	2,633	2,881	27	5,541	3,968	1,497	445	5,910
98-99	10,152	453	63	10,668	3,597	1,470	407	5,474
99-00	.	.	.	.	.	.	.	.



G 9-12 Course Completion *1 (All Students)

	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
94-95	.	.	.	.	.	.	.	.
95-96	1,372	1,391	86	2,849	1,968	1,110	441	3,519
96-97	2,790	1,492	45	4,327	2,268	1,067	341	3,676
97-98	1,746	1,955	23	3,724	2,693	1,124	383	4,200
98-99	6,296	401	62	6,759	2,490	1,167	361	4,018
99-00	.	.	.	.	.	.	.	.

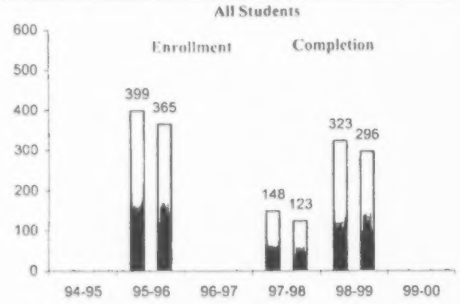


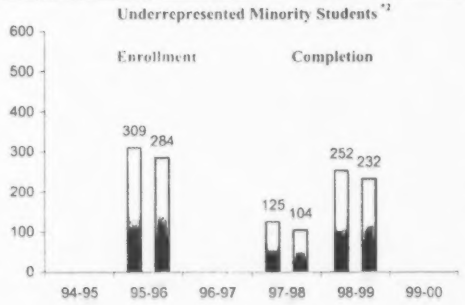
*3 Calculus not represented on graph

(.) Data Missing

Algebra I or Above in 8th Grade Enrollment & Completion Trends/ All vs. URM

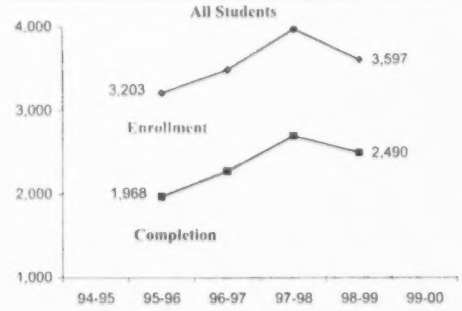
		94-95	95-96	96-97	97-98	98-99	99-00
Total G 8 Population		5,723	5,771	.	.	.	.
All Students	Enrollment	.	399	.	148	323	.
	Completion *1	.	365	.	123	296	.
	% Enroll/ G8	.	7%	.	.	.	.
URM *2	Enrollment	.	309	.	125	252	.
	Completion *1	.	284	.	104	232	.
	% Enroll/ G8	.	7%	.	.	.	.

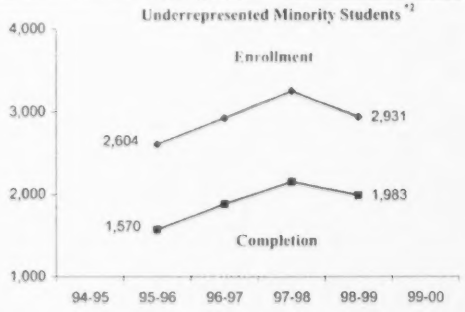




Biology Enrollment & Completion Trends/ All vs. URM

		94-95	95-96	96-97	97-98	98-99	99-00
All Students	Enrollment	.	3,203	3,474	3,968	3,597	.
	Completion *1	.	1,968	2,268	2,693	2,490	.
URM *2	Enrollment	.	2,604	2,918	3,242	2,931	.
	Completion *1	.	1,570	1,881	2,149	1,983	.





*1 Successful completion: grade 'D' or above. (.) Data Missing

*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic

Professional Development Participation of Teachers Teaching Mathematics and/or Science

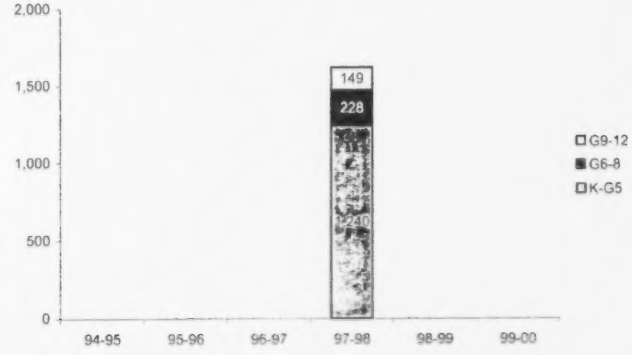
Total Number Teachers by Subject (G6-12)

	94-95	95-96	96-97	97-98	98-99	99-00
Mathematics	.	.	.	1,309	.	.
Science	.	.	.	1,044	.	.

Total Number of Teachers Participating in PD by Grade Level

Teachers	94-95	95-96	96-97	97-98	98-99	99-00
Total K-G5	.	.	.	2,805	.	.
# K-G5 Participated	.	.	.	1,240	.	.
% K-G5 Participated	.	.	.	44%	.	.
Total G6-8	.	.	.	1,028	.	.
# G6-8 Participated	.	.	.	228	.	.
% G6-8 Participated	.	.	.	22%	.	.
Total G9-12	.	.	.	1,325	.	.
# G9-12 Participated	.	.	.	149	.	.
% G9-12 Participated	.	.	.	11%	.	.

Number of Teachers Participating in Professional Development by Grade Level Taught



Number of Teachers by Duration of Professional Development

	94-95	95-96	96-97	97-98	98-99	99-00
1-59 Hours	.	.	.	1,592	.	.
60-119 Hours	.	.	.	21	.	.
120-200 Hours	.	.	.	4	.	.
More than 200 Hours	.	.	.	0	.	.

Cleveland USI

District Assessment Test Administered

♦ Mathematics

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name						
Scoring						
Grade						
Type						

♦ Science

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name						
Scoring						
Grade						
Type						

State Assessment Test Administered

♦ Mathematics

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	Ohio Prof.	Ohio Prof.	Ohio Prof.	Ohio Prof.	Ohio Prof.	Ohio Prof.
Scoring	Pass/ Fail	Pass/ Fail	Pass/ Fail	Pass/ Fail	Pass/ Fail	Pass/ Fail
Grade	4, 8-12	4, 8-12	4, 8-12	4, 8-12	4, 8-12	4, 8-12
Type	CRT, PL	CRT, PL	CRT, PL	CRT, PL	CRT, PL	CRT, PL

♦ Science

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	Ohio Prof.	Ohio Prof.	Ohio Prof.	Ohio Prof.	Ohio Prof.	Ohio Prof.
Scoring	Pass/ Fail	Pass/ Fail	Pass/ Fail	Pass/ Fail	Pass/ Fail	Pass/ Fail
Grade	4, 8-12	4, 8-12	4, 8-12	4, 8-12	4, 8-12	4, 8-12
Type	CRT, PL	CRT, PL	CRT, PL	CRT, PL	CRT, PL	CRT, PL

*Ohio Prof.: Ohio 4th, 9th, & 12th Grade Proficiency Test

PC: Percentile SN: Stanine PL: Performance Level

PF: Pass/Fail SS: Scaled Score OT: Other

NRT: Norm-Referenced Test CRT: Criterion-Referenced Test

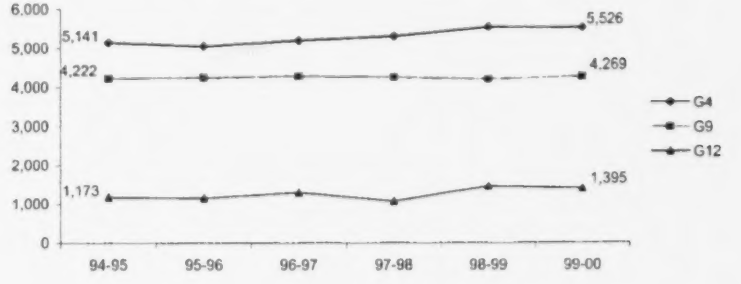
(.) Data Missing

State Assessment Test-Taker Trends - Ohio Proficiency Test

♦ Mathematics

# of Test-takers	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4	5,141	5,048	5,197	5,303	5,542	5,526
Grade 8	4,222	4,244	4,285	4,254	4,197	4,269
Grade 12	1,173	1,153	1,294	1,072	1,452	1,395

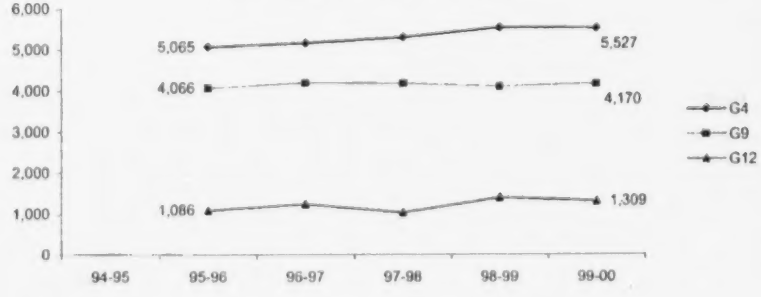
Total number of students taking test



♦ Science

# of Test-takers	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4	.	5,065	5,172	5,309	5,543	5,527
Grade 8	.	4,066	4,200	4,179	4,105	4,170
Grade 12	.	1,086	1,242	1,038	1,396	1,309

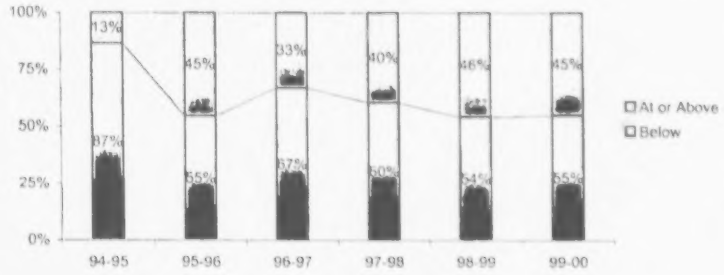
Total number of students taking test



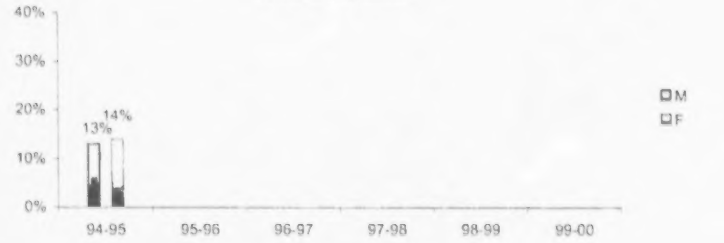
State Assessment Test Result Trends (Ohio Proficiency Test) - Mathematics

♦ Grade 4

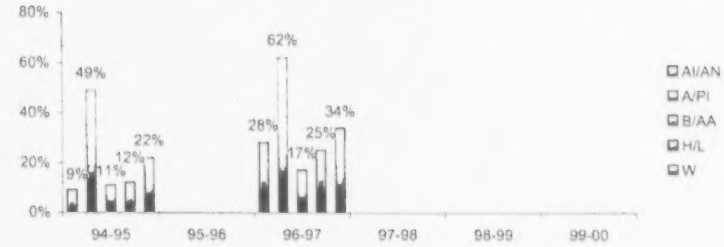
Proficiency	94-95	95-96	96-97	97-98	98-99	99-00
At or Above	13%	45%	33%	40%	46%	45%
Below	87%	55%	67%	60%	54%	55%
Total num of students	5094[*1]	5,048	5,172	5,303	5,542	5,526



% Passing by Gender



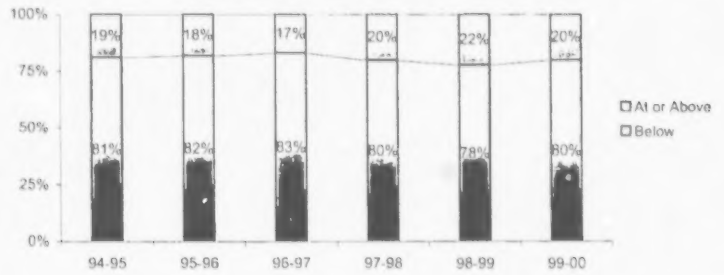
% Passing by Race/Ethnicity



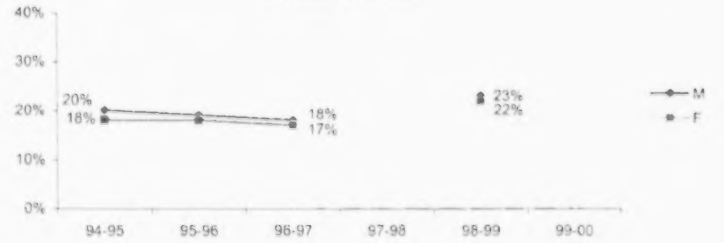
State Assessment Test Result Trends (Ohio Proficiency Test) - Mathematics

♦ Grade 8

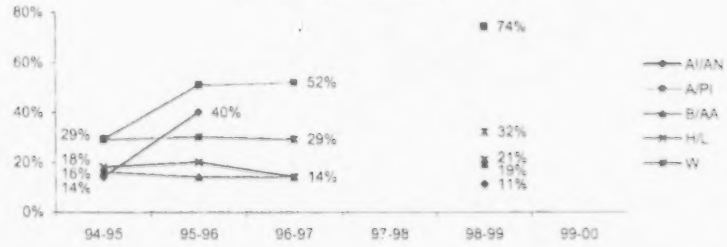
Proficiency	94-95	95-96	96-97	97-98	98-99	99-00
At or Above	19%	18%	17%	20%	22%	20%
Below	81%	82%	83%	80%	78%	80%
Total num of students	4,222	4,244	4,285	4,254	4,197	4,269



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as "At or Above Proficiency"

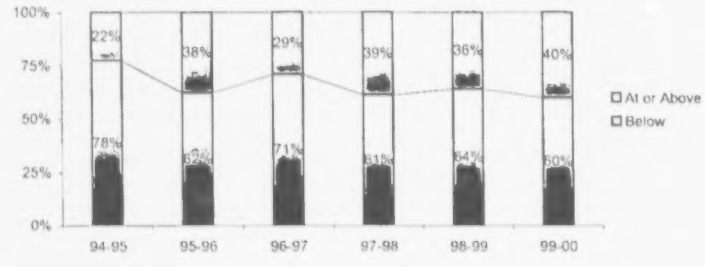
[*1] "Other" Category Not Included in Presented Data

(.) Data Missing

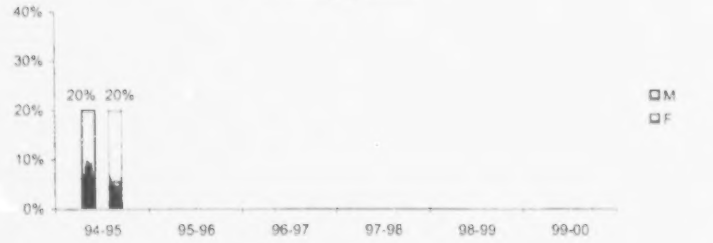
State Assessment Test Result Trends (Ohio Proficiency Test) - Mathematics

- **Grade 12**

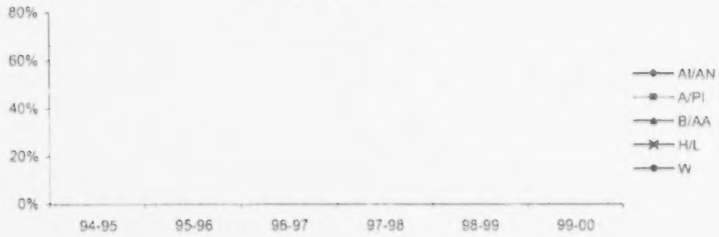
Proficiency	94-95	95-96	96-97	97-98	98-99	99-00
At or Above	22%	38%	29%	39%	36%	40%
Below	78%	62%	71%	61%	64%	60%
Total num of students	1029*1	1,153	1,294	1,072	1,452	1,395



% Passing by Gender



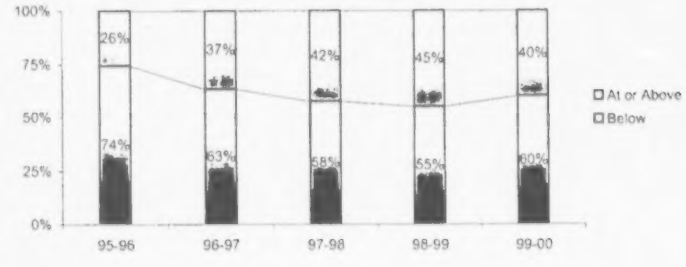
% Passing by Race/Ethnicity



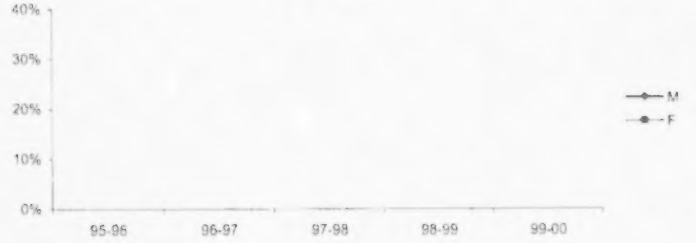
State Assessment Test Result Trends (Ohio Proficiency Test) - Science

- **Grade 4**

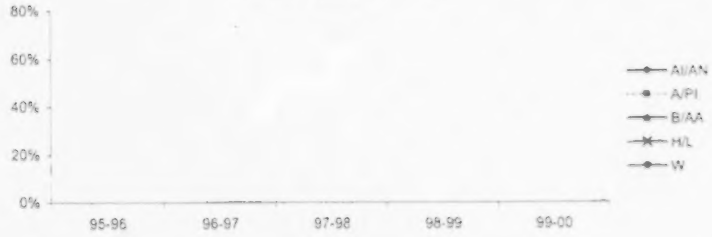
Proficiency	94-95	95-96	96-97	97-98	98-99	99-00
At or Above		26%	37%	42%	45%	40%
Below		74%	63%	58%	55%	60%
Total num of students		5,065	5,172	5,309	5,543	5,527



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as "At or Above Proficiency."

*1 "Other" Category Not Included in Presented Data

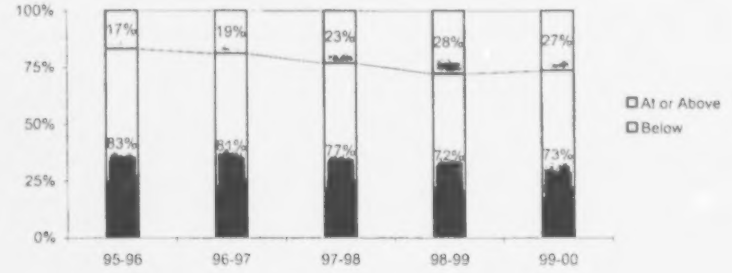
( ) Data Missing

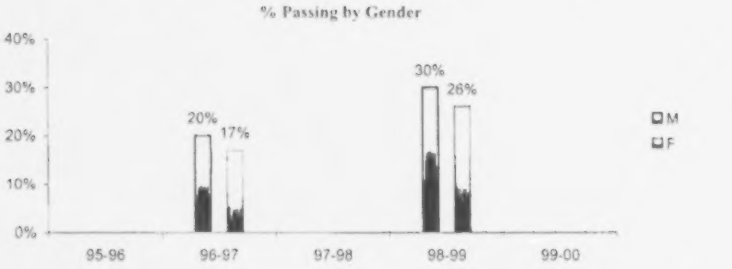
150

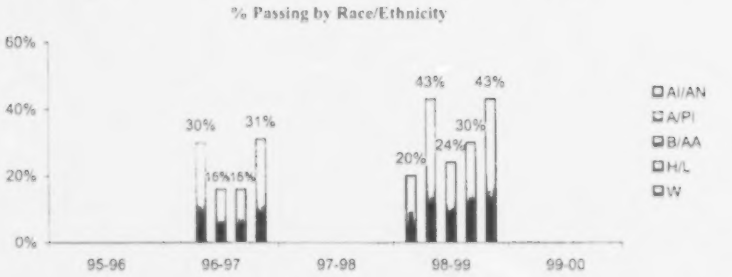
State Assessment Test Result Trends (Ohio Proficiency Test) - Science

♦ Grade 8

Proficiency	94-95	95-96	96-97	97-98	98-99	99-00
At or Above	.	17%	19%	23%	28%	27%
Below	.	83%	81%	77%	72%	73%
Total num of students		4,066	4,200	4,179	4,105	4,170



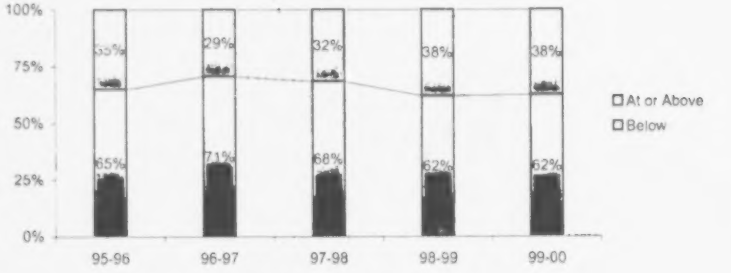


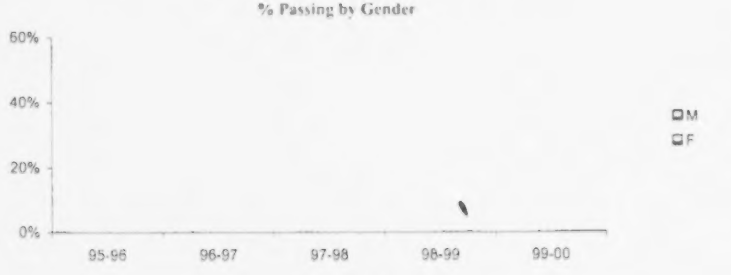


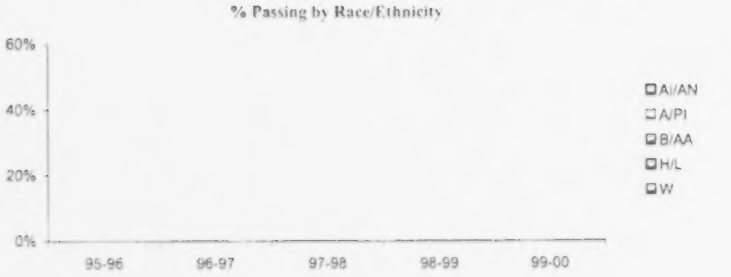
State Assessment Test Result Trends (Ohio Proficiency Test) - Science

♦ Grade 12

Proficiency	94-95	95-96	96-97	97-98	98-99	99-00
At or Above	.	35%	29%	32%	38%	38%
Below	.	65%	71%	68%	62%	62%
Total num of students		1,086	1,242	1,038	1,396	1,309







AI/AN: American Indian/Alaskan Native. A/PI: Asian/Pacific Islander. B/AA: Black or African American. H/L: Hispanic or Latino. W: White

% Passing defined as "At or Above Proficiency."

"-" "Other" Category Not Included in Presented Data

( ) Data Missing

Cleveland USI

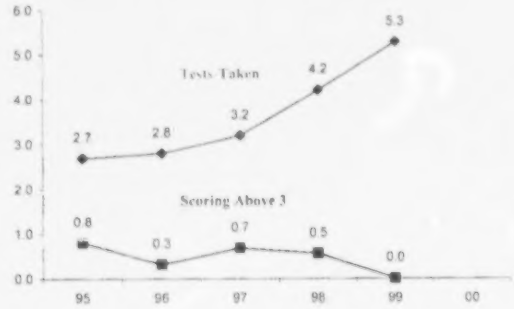
AP Mathematics Test Result Trends

♦ AP Mathematics (Calculus AB, Calculus BC, & Statistics)

♦ AP Mathematics - Total Number of Tests Taken

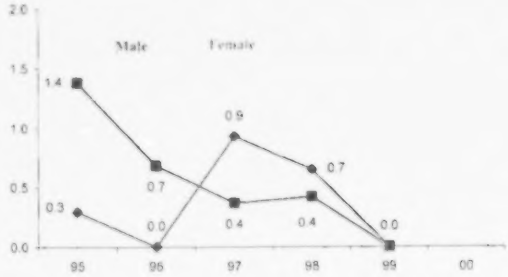
		95	96	97	98	99	00
	Total Num of 11th & 12th	6,332	6,441	5,960	5,473	5,313	
Tests Taken	Calc. AB	16	18	19	23	28	27
	Calc. BC	1	0	0	0	0	0
	Statistics	0	0	0	0	0	0
	Total	**17**	**18**	**19**	**23**	**28**	**27**
	Num of tests taken/1,000 stu.	2.7	2.8	3.2	4.2	5.3	
	Scoring Above 3	5	2	4	3	0	2
	Num of Above 3/ 1,000 students	0.8	0.3	0.7	0.5	0.0	

Number of tests taken and scoring above 3 per 1,000 students



♦ AP Mathematics - Number of Students Scoring Above 3 By Gender per 1,000 Students

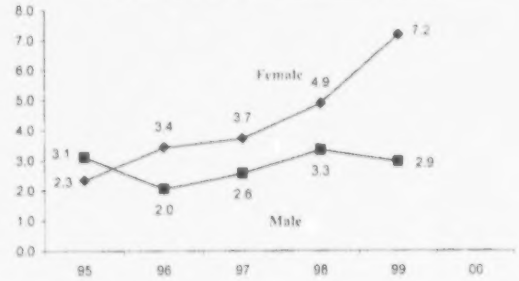
		95	96	97	98	99	00
Score Above 3 per 1,000	Male	1.4	0.7	0.4	0.4	0.0	
	Female	0.3	0.0	0.9	0.7	0.0	



♦ AP Mathematics - Number of Tests Taken By Gender Per 1,000 Students

		95	96	97	98	99	00
Tests Taken per 1,000	Male	3.1	2.0	2.6	3.3	2.9	
	Female	2.3	3.4	3.7	4.9	7.2	

Number of tests taken per 1,000 students by Gender



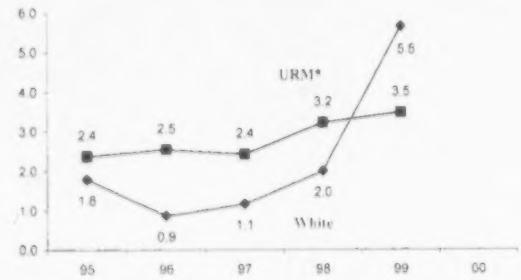
♦ AP Mathematics - Number of Students Scoring Above 3 By Race/Ethnicity Per 1,000 Students [1]

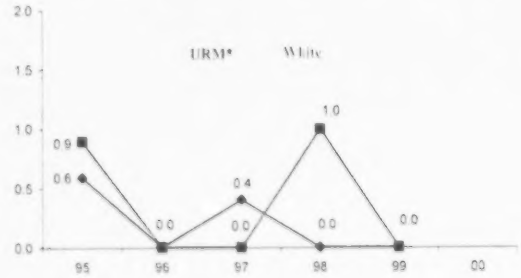
	95	96	97	98	99	00
AI/AN	71.4	0.0	0.0	0.0	0.0	
A/PI	0.0	16.7	10.0	19.4	0.0	
B/AA	0.4	0.0	0.4	0.0	0.0	
H/L	0.0	0.0	0.0	0.0	0.0	
W	0.9	0.0	0.0	1.0	0.0	

♦ AP Mathematics - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [1]

	95	96	97	98	99	00
AI/AN	71.4	0.0	0.0	0.0	0.0	
A/PI	0.0	33.3	40.1	58.3	43.2	
B/AA	2.4	2.2	2.7	3.6	3.8	
H/L	0.0	5.7	0.0	0.0	0.0	
W	1.8	0.9	1.1	2.0	5.6	

Number of tests taken per 1,000 students by Race/Ethnicity





AI/AN: American Indian/Alaskan Native. A/PI: Asian/Pacific Islander.
B/AA: Black or African American. H/L: Hispanic or Latino. W: White
[1] "Other" category not presented (.) Data missing

*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

Cleveland USI

AP Science Test Result Trends

♦ AP Science - Total Number of Tests Taken

		95	96	97	98	99	00
Total Num of 11th & 12th		6,332	6,441	5,960	5,473	5,313	.
Tests Taken	Biology	6	6	10	9	41	15
	Chem.	5	0	0	0	0	0
	Enviro. Sci.	0	0	0	0	0	0
	Physics B	0	0	0	0	0	0
	Ph. C Mech.	0	0	0	0	0	0
	Ph. C Elec.	0	0	0	0	0	0
	Total	**11**	**6**	**10**	**9**	**41**	**15**
Num of tests taken/1,000 stu.		1.7	0.9	1.7	1.6	7.7	.
Scoring Above 3		1	1	1	0	4	0
Num of Above 3/ 1,000 students		0.2	0.2	0.2	0.0	0.8	.

♦ AP Science - Number of Tests Taken By Gender Per 1,000 Students

		95	96	97	98	99	00
Tests Taken per 1,000	Male	1.4	0.0	1.1	1.3	5.9	.
	Female	2.0	1.7	2.2	2.0	9.2	.

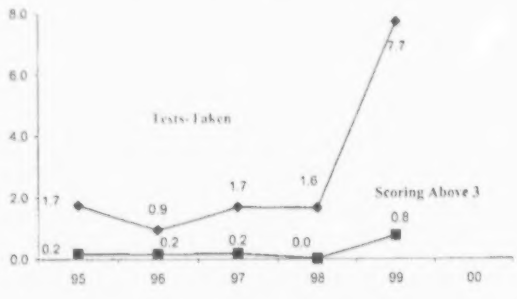
♦ AP Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students *1

	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	95.8	.
A/PI	9.3	0.0	20.0	0.0	21.6	.
B/AA	2.0	1.3	1.6	2.3	7.7	.
H/L	0.0	0.0	2.1	0.0	4.8	.
W	5.3	0.0	0.0	2.0	7.9	.

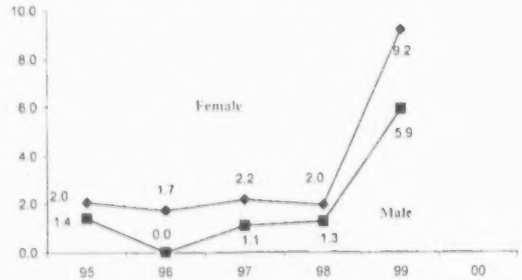
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
*1 "Other" category not presented (.) Data missing

♦ AP Science (Biology, Chemistry, Environ. Sci., Phy. B, Phy. C Mech., & Phy. C Elec.

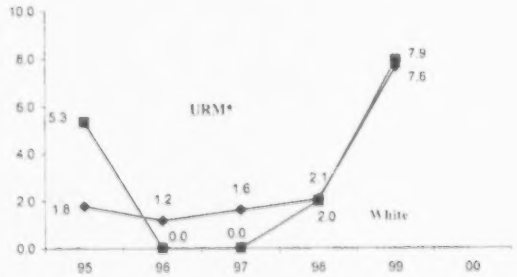
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender

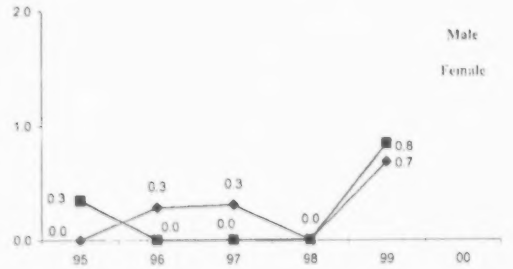


Number of tests taken per 1,000 students by Race/Ethnicity



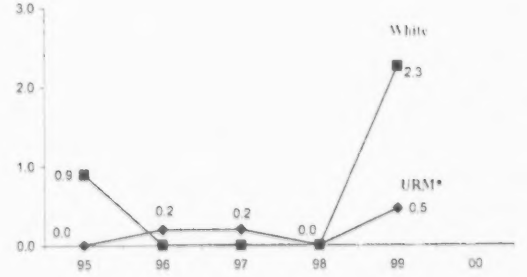
♦ AP Science - Number of Students Scoring Above 3 By Gender per 1,000 Students

		95	96	97	98	99	00
Score Above 3 per 1,000	Male	0.3	0.0	0.0	0.0	0.8	.
	Female	0.0	0.3	0.3	0.0	0.7	.



♦ AP Science - Number of Students Scoring Above 3 By Race/Ethnicity Per 1,000 Students *1

	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	95.8	.
A/PI	0.0	0.0	0.0	0.0	0.0	.
B/AA	0.0	0.2	0.2	0.0	0.3	.
H/L	0.0	0.0	0.0	0.0	0.0	.
W	0.9	0.0	0.0	0.0	2.3	.



*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

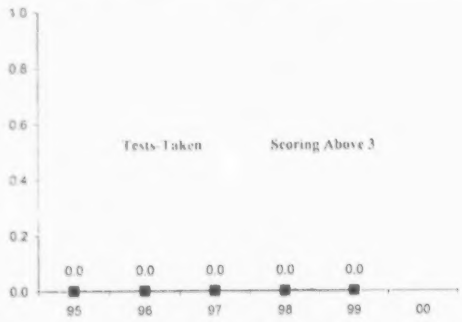
AP Computer Science Test Result Trends

♦ AP Computer Science (Computer Science A & AB)

♦ AP Computer Science - Total Number of Tests Taken

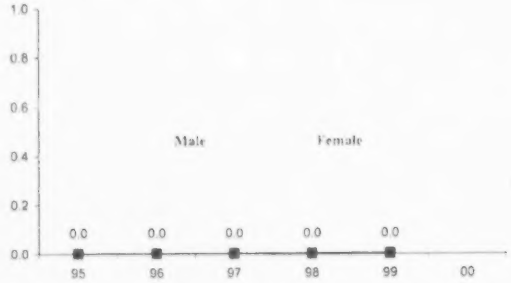
		95	96	97	98	99	00
Total Num of 11th & 12th students		6,332	6,441	5,960	5,473	5,313	.
Tests Taken	Comp. Sci A	0	0	0	0	0	0
	Comp. Sci. AB	0	0	0	0	0	0
	Total	**0**	**0**	**0**	**0**	**0**	**0**
Num of tests taken/1,000 stu.		0.0	0.0	0.0	0.0	0.0	
Scoring Above 3		0	0	0	0	0	0
Num of Above 3/ 1,000 students		0.0	0.0	0.0	0.0	0.0	

Number of tests taken and scoring above 3 per 1,000 students



♦ AP Computer Science - Number of Students Scoring Above 3 By Gender per 1,000 Students

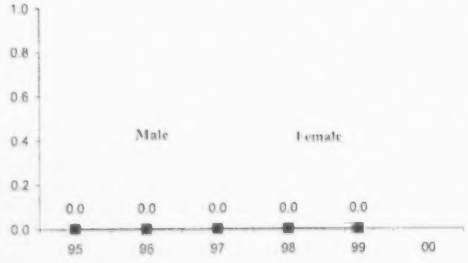
		95	96	97	98	99	00
Score Above 3 per 1,000	Male	0.0	0.0	0.0	0.0	0.0	.
	Female	0.0	0.0	0.0	0.0	0.0	.



♦ AP Computer Science - Number of Tests Taken By Gender Per 1,000 Students

		95	96	97	98	99	00
Tests Taken per 1,000	Male	0.0	0.0	0.0	0.0	0.0	.
	Female	0.0	0.0	0.0	0.0	0.0	.

Number of tests taken per 1,000 students by Gender



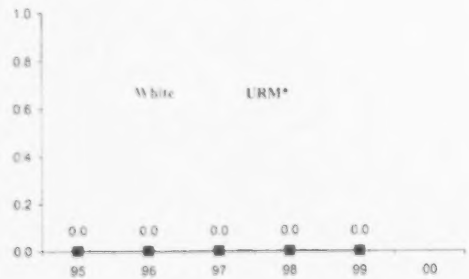
♦ AP Computer Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [*1]

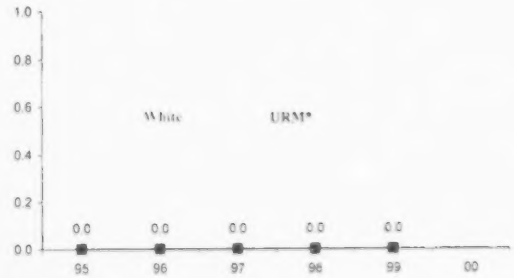
	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0	.
A/PI	0.0	0.0	0.0	0.0	0.0	.
B/AA	0.0	0.0	0.0	0.0	0.0	.
H/L	0.0	0.0	0.0	0.0	0.0	.
W	0.0	0.0	0.0	0.0	0.0	.

♦ AP Computer Science - Number of Tests Taken By Race/Ethnicity per 1,000 Students [*1]

	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0	.
A/PI	0.0	0.0	0.0	0.0	0.0	.
B/AA	0.0	0.0	0.0	0.0	0.0	.
H/L	0.0	0.0	0.0	0.0	0.0	.
W	0.0	0.0	0.0	0.0	0.0	.

Number of tests taken per 1,000 students by Race/Ethnicity





AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented ( ) Data missing

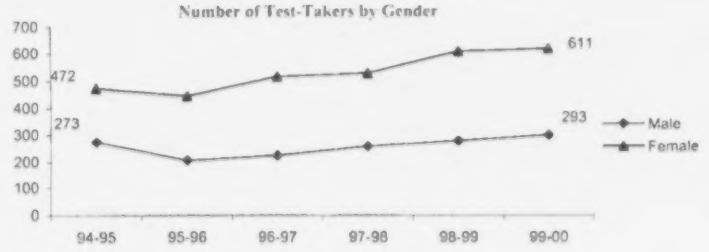
*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

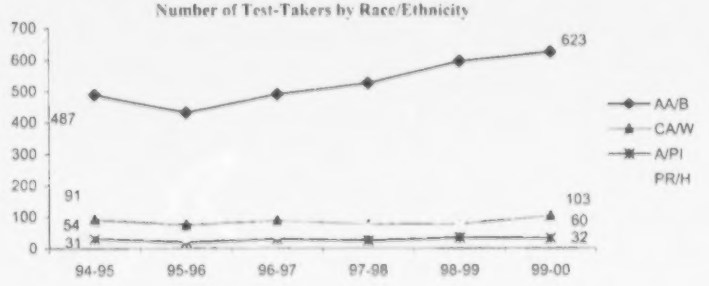
Cleveland USI

ACT Test-Takers

♦ Number of Test-Takers

		94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students *1		2,808	2,886	2,670	2,429	2,462	.
Test-Takers		745	645	732	776	876	905
Num of Test-Takers/1,000 Stu.		265	223	274	319	356	.
Gender	Male	273	203	220	253	273	293
	Female	472	442	512	523	602	611
Race/Ethnicity	AA/B	487	429	488	524	594	623
	AI/AN *2	4	4	2	3	5	2
	CA/W	91	74	88	76	77	103
	MA/C *2	5	4	4	1	4	3
	A/PI	31	18	29	24	33	32
	PR/H	54	32	42	63	70	60

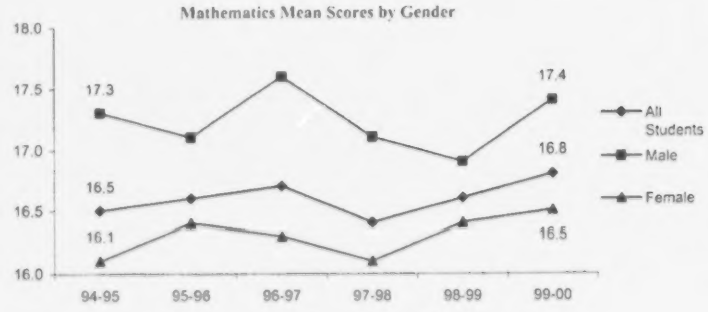


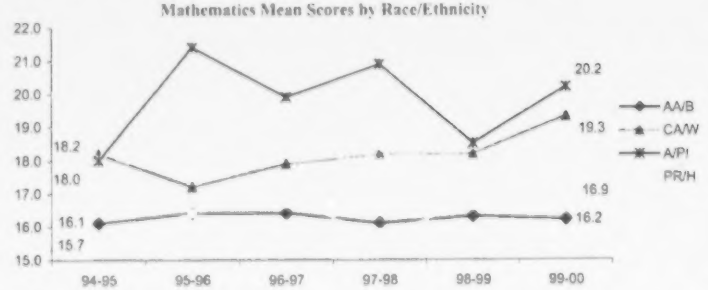


ACT Mathematics Scores

♦ Mathematics - Mean Score Trends

		94-95	95-96	96-97	97-98	98-99	99-00
All Students		16.5	16.6	16.7	16.4	16.6	16.8
Gender	Male	17.3	17.1	17.6	17.1	16.9	17.4
	Female	16.1	16.4	16.3	16.1	16.4	16.5
Race/Ethnicity	AA/B	16.1	16.4	16.4	16.1	16.3	16.2
	AI/AN *3	-	-	-	-	17.0	-
	CA/W	18.2	17.2	17.9	18.2	18.2	19.3
	MA/C *3	17.6	-	-	-	-	-
	A/PI	18.0	21.4	19.9	20.9	18.5	20.2
	PR/H	15.7	16.4	16.7	15.8	16.6	16.9





AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.

*1 Data not available for 12th Grade enrollment SY 1999-00

*2 Number of Test-Takers less than 5 not presented in graph

*3 Mean scores are not presented for sample size less than 5

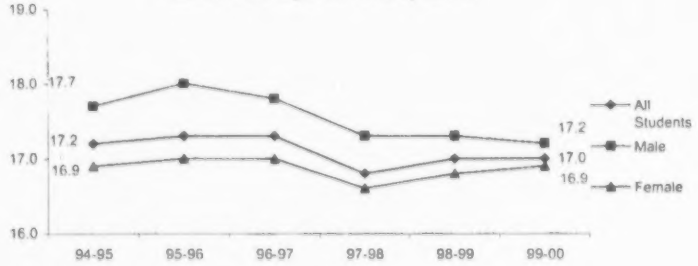
(.) Data Missing

ACT Science Reasoning Scores

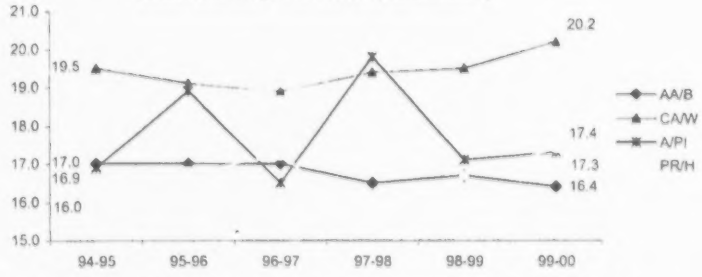
♦ **Science Reasoning - Mean Score Trends**

		94-95	95-96	96-97	97-98	98-99	99-00
All Students		17.2	17.3	17.3	16.8	17.0	17.0
Gender	Male	17.7	18.0	17.8	17.3	17.3	17.2
	Female	16.9	17.0	17.0	16.6	16.8	16.9
Race/Ethnicity	AA/B	17.0	17.0	17.0	16.5	16.7	16.4
	AI/AN *1	-	-	-	-	18.4	-
	CA/W	19.5	19.1	18.9	19.4	19.5	20.2
	MA/C *1	18.6	-	-	-	-	-
	A/PI	16.9	18.9	16.5	19.8	17.1	17.3
	PR/H	16.0	16.8	17.2	15.6	16.7	17.4

Science Reasoning Mean Scores by Gender



Science Reasoning Mean Scores by Race/Ethnicity



AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.

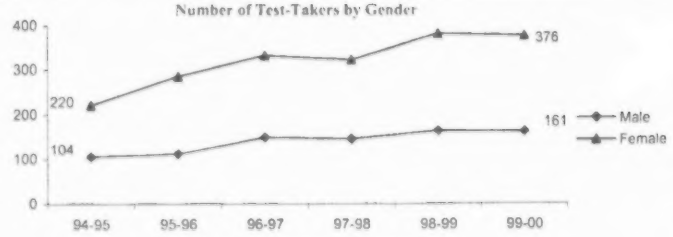
*1 Mean scores are not presented for sample size less than 5

SAT Test-Takers

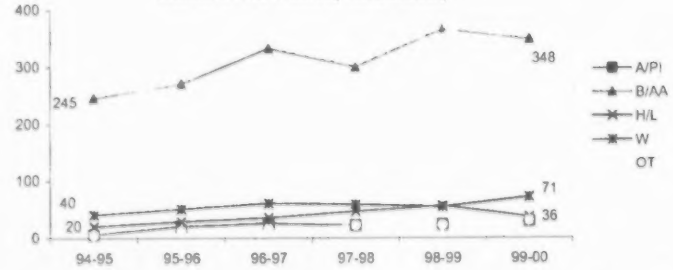
♦ **Number of Test-Takers**

		94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students *2		2,808	2,886	2,670	2,429	2,462	-
Test-Takers		324	396	481	467	544	537
Num of Test-Takers/1,000 *2		115	137	180	192	221	-
Gender	Male	104	111	149	145	163	161
	Female	220	285	332	322	381	376
Race/Ethnicity	AI/AN *3	3	2	1	2	4	4
	A/PI	6	20	25	22	23	28
	B/AA	245	270	332	300	366	348
	H/L	20	28	35	46	56	36
	W	40	50	60	58	54	71
	OT	5	10	15	22	22	29

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

*2 Data not available for 12th Grade enrollemnt SY 1999-00

*3 Number of Test-Takers less than 5 not presented in graph

(.) Data Missing

Cleveland USI

SAT Mathematics Scores

♦ **Mathematics - Mean Score Trends**

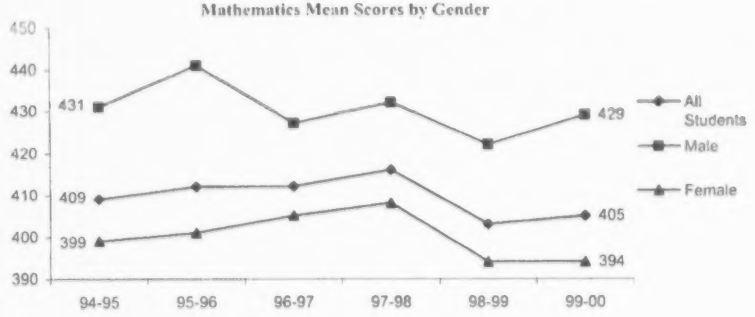
		94-95	95-96	96-97	97-98	98-99	99-00
All Students		409	412	412	416	403	405
Gender	Male	431	441	427	432	422	429
	Female	399	401	405	408	394	394
Race/Ethnicity	AI/AN [*1]	-	-	-	-	-	-
	A/PI	380	537	492	474	462	484
	B/AA	403	399	401	410	392	388
	H/L	380	431	391	367	390	406
	W	467	431	454	483	450	461
	OT	478	413	401	392	405	398

SAT Verbal Scores

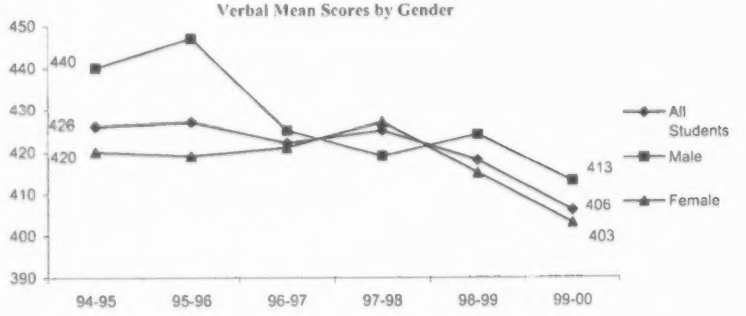
♦ **Verbal - Mean Score Trends**

		94-95	95-96	96-97	97-98	98-99	99-00
All Students		426	427	422	425	418	406
Gender	Male	440	447	425	419	424	413
	Female	420	419	421	427	415	403
Race/Ethnicity	AI/AN [*1]	-	-	-	-	-	-
	A/PI	377	420	390	401	406	353
	B/AA	422	426	424	431	416	398
	H/L	406	434	384	362	395	428
	W	476	429	452	473	456	463
	OT	442	464	410	382	426	388

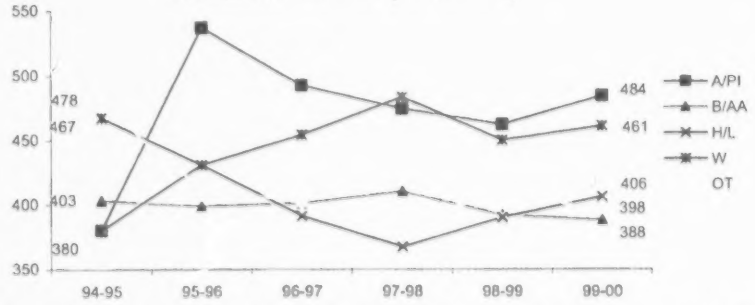
Mathematics Mean Scores by Gender



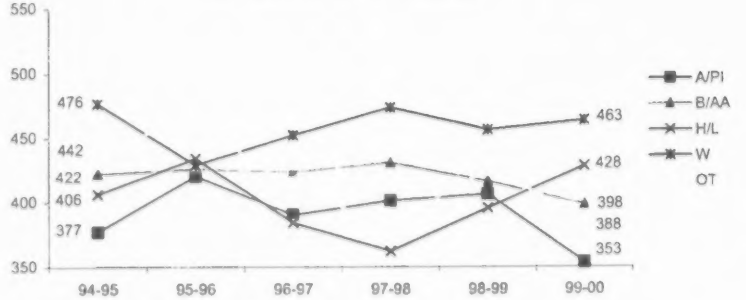
Verbal Mean Scores by Gender



Mathematics Mean Scores by Race/Ethnicity



Verbal Mean Scores by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

[*1] Mean scores are not presented for sample size less than 5

Cleveland USI

Cohort/Scale-Up Approach

Number of District Schools*:	95-96	96-97	97-98	98-99	99-00
	121	*121*	*121*	122	*121*
USI Schools**:	29	61	121	121	*121*
% Schools:	24%	50%	100%	99%	100%

*Core Data Elements 2000; ** K-1 2001

Italics: Data Imputed

Primary Decision Making Body

Standards Curriculum	State
Curriculum/TextBook Adoption	District
Student Assessment	State
Professional Development	District
Resources	District
Teacher Hiring	District
Teacher Contracts	District
Certification & Re-certification	State
Graduation Requirements	District
School-Based Management?	Yes

Policies Promoting Equal Access by All Students in High Quality Education

Student Tracking:
- All non-college preparatory science and mathematics courses eliminated

Criteria for Entry into High Level Mathematics and Science Courses:

Availability of High Level Courses:
- Only college preparatory mathematics and science courses offered

Special Education and Bilingual Students:
- Programmatic areas for special instructional needs
- Special Education instruction based upon regular curriculum with needed support
- All students have same mathematics and science requirements

Policies Impacting the Enrollment of Students in Challenging Math and Science Courses

Attendance:
- Every school has performance target based on characteristics of the schools student body

Guidance:
- Guidance Institute
- Institutionalization of the Guidance Institute

Student Support Systems:
- Safety-Net Program
- Summer School Extension for Improvement of Proficiency Scores
- Tutorial Services
- Saturday Schools
- Vital Links Program
- Individualized Academic and Career Education plans

Policies Relevant to Curricula

Framework:
- Ohio Model Competency-Based Framework

Curricula:

Curricula Materials:
- Full Option Science System (FOSS)
- Insights
- National Science Resources Center (NSRC)
- Science Education for Public Understanding (SEPUP)
- Pacesetter Mathematics
- Connected Mathematics
- Algebra for all (pilot)

New Courses Added as a Result of USI:
- None reported

Instructional Time:
- Influenced by district policy

Others:

Standards-based Curriculum and Instruction

Standards Adopted:
- National Council of Teachers of Mathematics
- National Research Council
- Ohio Proficiency Standards

Primary Instructional Strategies:
- Constructivist Approach: Hands-on, Manipulatives, inquiry based

% of Students Experiencing Standards-based Mathematics Curricula:	E: >80% M: >70% H: >60%
% of Students Experiencing Standards-based Science Curricula:	E: >80% M: >70% H: >60%

Policies Relevant to Teacher Qualifications

Certification:
- Ohio Department of Education requirements

Requirement & Hiring Practices
- Affirmative Action/Equal Opportunity Employer
- Aggressive national recruitment efforts
- Site-Based interview of teachers for position

Professional Advancement & Leadership Training:
- Training for site-based leadership teams
- Training for personnel in leadership positions
- Teacher support teams
- Principals Institution

Contract Requirements:
- Ohio Department of Education requirements
- Negotiated between the District and the Cleveland Teachers Union

E: Elementary School M: Middle School H: High School

Cleveland USI

Professional Development Policies and Practices

Time Required or Supported:	• Three student non-attendance days • USI substitutes provided for site-based professional development
Financial Resources Provided:	• Eisenhower Funds • Title I funds • Educational Technology funds: SchoolNet, Project Neat, Joyce Grant, Alliance + • District Funds • USI funds
Alignment to Student Standards:	• Aligned with State Proficiency Learning Outcomes
Measurement of Impact:	
Other:	• Professional Development office is created
Type and Amount Received by Average Math/Science Teacher:	• Urban Teacher's Academy • Instructional Alignment training and implementation • Must Improve Mathematics and Science (MIMS): 20-60 hours • SchoolNet: 60 hours regarding educational use of computers • Inquiry-based education • Implementation of standards-based curriculum • Lead teachers work with peer on site • New textbook adoption • Use of graphing calculator as a tool in instruction
Evaluation Instruments:	• Promotion Rate • Retention Rate • Graduation Rate
Professional Development Alignment to Content Standards Measures:	
Teacher's Instructional Practices Evaluation:	
Impact on Student Achievement:	• Scores of proficiency tests by classroom using aggregate results

Policies Relevant to Standards-based Assessments

Extent to Which Assessments are Aligned to District Standards and Curriculums:	• Data based on test results drive the curricula and instruction • 99.9% aligned
Methods stakeholders are informed of goals, objectives and accomplishments of assessment program:	• Student study guides • Test outcome objectives • State report card • Ohio Department of Education web site

USI Leadership, Governance, and Management

Superintendent:	• District under Mayoral control since 9/9/98 • Chief Executive Officer appointed 11/16/98 • School Board: 2 regular members and 2 ex-official members
USI Office:	• Principal Investigator is Chief Executive Officer • Project Director reports directly to Chief Executive Officer and Chief Academic Officer • Co-PI's are Chief Academic Officer, Director of Curriculum and Instruction, and Director of Career/Applied Technologies • Urban Systemic Initiative Transformation Team provided leadership for overview and change
Community Key Personnel:	
Teacher Leaders:	• Lead Teachers

Cleveland USI

Partnerships

Other Key Initiatives:	• Title I • Eisenhower • Ohio SchoolNet • Perkins • E-Rate
Community Stakeholders:	• The Urban Teacher's Academy • The Cleveland Education Fund • Environmental Protection Agency • City of Cleveland Empowerment Zone • Glenn Research Center of NASA • Cleveland Initiative for Education • School to Work, Region 8 • Growth Association
Higher Education:	• John Carroll University • Case Western Reserve University • Cleveland State University • Cuyahoga Community College • Polaris • Kent State University • Stevens Institute of Technology • Ashland University
Business and Industry:	• Texas Instruments • General Electric • The Cleveland Clinic Foundation • Forest City Enterprises
Other Partnerships:	• Equity 2000 of College Board • Great Lakes Science Museum • Natural History Museum • Cleveland Health Museum • Cleveland Orchestra • Cleveland MetroParks Zoo • Cleveland Museum of Arts • Rock and Roll Hall of Fame

Policy Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	• Policies based on the State of Ohio Requirements • A variety of math and science courses were offered including general science and shop math • District introduced Hands-on Science using Project Discovery and C.R.E.S.T. (Cleveland Revitalizes Elementary Science Teaching)
1995-96	• Cohort I schools to develop an Academic Achievement Plan • Basal, Supplementary, Textbooks, Workbooks, and Instructional Policy (6141.1)
1996-97	• Discipline Policy (4214.12)
1997-98	• Safe Schools policy (5140.1) • Graduation Requirements: 3 years of mathematics and 2 years of science
1998-99	• All day kindergarten
1999-00	• No change reported

Curriculum and Instruction Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	• Standard-based curricula implemented in mathematics and science • Mathematics and science aligned with State and National Standards • New textbook adoption once every seven years
1995-96	• The state Model Competency-Based Framework and Ohio Proficiency standards for G4, 6, 9, and 12 adopted
1996-97	• Implementation of Integrated Mathematics • SchoolNet Plus enhances Mathematics and Science with computers in the elementary classrooms • Implementation of a school accountability system which requires a certain level of performance from all schools • Revise Coordinated Science
1997-98	• Full implementation of Integrated Mathematics • Development of Educational Technology Framework
1998-99	• Established 100% standards-based curriculum in both mathematics and science
1999-00	• No change reported

Professional Development Policy and Program Changes to Support Teachers During USI Implementation

School Year	Policy Implemented
Before USI	◦The Math Supervisor, Science Supervisor, and Educational Technology Manager were responsible for professional development within their domain ◦Professional Development was centralized through Eisenhower, State Systemic Initiative, Title 1, and Technology grants
1995-96	◦Start of Site-Based professional development. Schools were provided participant support cost to conduct professional development related to school improvement in achievement in Math and Science ◦Three days student non-attendance used for site-based professional development ◦Five 1/2 days student non-attendance used for site-based professional development ◦Centralized professional development provided by C.U.S.I., Eisenhower, State Systemic Initiative, Title 1, and Technology grants
1996-97	◦Development of a comprehensive Employee Development and Training plan that focuses on the total workforce - certified as well as classified personnel ◦USI Substitutes hired for on-site professional development ◦Schools required to include site-based professional development in their Academic Achievement Plan
1997-98	◦MIMS (Must Improve Mathematics and Science) 20-60 hour seminars offered Thursday, Friday, and Saturday on standards based topics ◦Site-based professional development based on hours the school's teachers participated in MIMS
1998-99	◦Creation of a Professional Development Office that reports directly to the Chief Executive Officer ◦Site-based professional development to increase and Centralized Professional Development to decrease
1999-00	◦No change reported

Standards-based Assessment System Changes During USI Implementation

School Year	Policy Implemented
Before USI	◦Ohio Proficiency Test in mathematics, G4, 6,9,
1995-96	◦No changes reported
1996-97	◦Implementation of off-grade proficiency testing The District (1) designed and created proficiency study guide; (2) increased emphasis on open-ended, free response questions; (3) the 6th Grade Proficiency Test is used as 1 of 2 indicators to identify the bottom quartile middle schools; (4) effectively p
1997-98	◦Off-Grades 1 and 7 revised Graphically informed schools of their test results Emphasize subject strand strengths and weaknesses Design intervention in conjunction with school's academic achievement plan Testing Data is used to inform teachers of areas of weakness so that professional development strategies can be developed/designed
1998-99	◦Produced and automated new graphical representation of Proficiency tests Emphasize subject strand strengths and weaknesses Design intervention in conjunction with school's academic achievement plan Testing Data is used to inform teachers of areas of weakness so that professional development strategies can be developed/designed
1999-00	◦No change reported

School District Progress Report

March 2002

Columbus

Urban School Key Indicators of Science and Mathematics Education: 2001

BEST COPY AVAILABLE

Columbus USI

Project Information

USI Project Title : Columbus USI
Cohort: 94 (Sept. 95 - Aug. 00)
USI Web Site: www.columbus.k12.oh.us/usi/index.html

♦ PI, CO-PI and PD

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♦ Mailing Address

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270 East State Street
Columbus, Ohio 43215

♦ USI Schools Math & Sci. Teachers and Students

99-00	Schools	Teachers	Students
K-G5 (Elementary)	92	1,662	33,816
G6-8 (Middle)	25	374	14,121
G9-12 (High)	17	205	14,544
Total	134	2,241	62,481

Project Summary

The Columbus Public School District is implementing dramatic changes in the way the district supports student learning of science and mathematics in grades K The district's comprehensive systemic improvement plan sets high achievement standards for all students and provides an enhanced support structure and integ community involvement to ensure that students can successfully meet those standards. Under Columbus' improvement plan, all students are exposed to the new integrated science and mathematics curriculum that focuses on helping students understand concepts and applications to real-world situations. In the proposed adoption of higher performance standards, all students will be required to complete 12 years of mathematics and science. In addition, alternative assessment tools ensure that all students acquire required skills prior to promotion or graduation. The district has established community-based Mathematics and Science Centers to provide supportive and enrichment activities for all students outside of school hours. The utilization of technology in the classroom has begun to enable student teachers throughout the district to access mathematics and science resources.

To strengthen leadership and accountability, the teaching and administrative staff work collaboratively to facilitate innovative instruction and learning in mathematics and science through the creation of building-level teams and implementation plans. Professional development activities are focused at both the building level and through an extensive array of district professional development inservice and course offerings. The USI schools are scheduled to participate in a district-wide reform effort through the Urban Academy for Professional Development and School Renewal. To support a shared vision of change and improved learning in mathematics and science for all students, a cadre of teacher leaders work day to day in the elementary and middle schools to support mathematics and science teachers, involve parents, and model instruction in the classroom. The district has a strong commitment to community partnerships and shared resources to support mathematics and science.

Project Goals

- To reengineer the mathematics and science curriculum to produce one that is aligned with national and state standards.
- To provide high-quality professional development through building-based and district activities, including support from the Urban Academy for Professional Development and School Renewal.
- To integrate advanced technology throughout the district for use in classroom instruction and to network teachers, students, and community partners.
- To provide building-based instructional support to students, teachers, and parents through the utilization of mathematics and science teacher leaders.
- To strengthen leadership and accountability in the buildings through the identification of teams consisting of teachers, administrators, parents, and comm members to develop implementation plans leading to improved learning for all students.

Selected School Indicators (District Average)

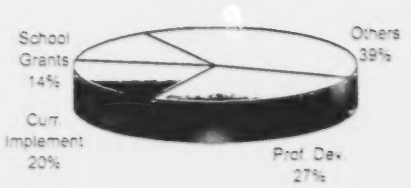
	94-95	99-00	Change
%Special Ed.	13.0%	13.4%	+0.4 PP
%LEP	1.3%	2.4%	+1.1 PP
%FRL	57.4%	58.6%	+1.2 PP
%Daily Ave. Atten.	89.0%	90.1%	+1.1 PP
%Average Retained	-	2.7%	-
%Drop-Out	11.1%	-	-
%Mobility	-	33.2%	-
Per Pupil Cost ($)	$6,161	$7,200	+16.9%
Num of Students Per Computer	500	10	-98.0%
% Classrooms Internet Access	2.0%	100.0%	+98.0 PP
Average Class Size	22	23	+4.5%

(-) Data Missing

District and USI Fund Utilization (SY 1999-00)

	District	USI
Prof. Dev.	12%	27%
Curr. Implement.	22%	20%
School Grants	3%	14%
Others	63%	39%
Total	100%	100%

USI Funds %



Columbus USI

Student Demographics (SY 1999-00)

District Total:	62,481	
USI Schools	62,481	100%

♦ Race/Ethnicity

	94-95	99-00	%	Change
Ame. Ind./Ala. Nat.	111	115	0.2%	+3.6%
Asian/P. Islander	1,514	1,512	2.4%	-0.1%
Black	33,445	36,735	58.8%	+9.8%
Hispanic	692	923	1.5%	+33.4%
White	25,470	23,196	37.1%	-8.9%
Other	0	0	0.0%	
Total	61,232	62,481		+2.0%
URM Total	34,248	37,773	60.5%	+10.3%

URM: Underrepresented Minority students

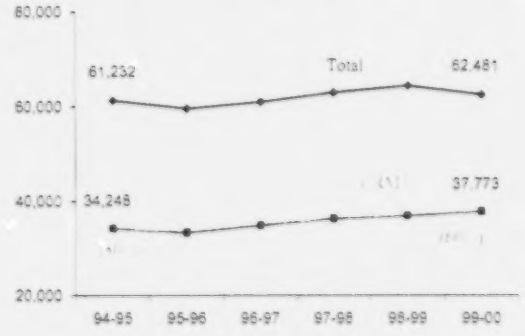
♦ Gender

Male	31,168	32,033	51.3%	+2.8%
Female	30,064	30,448	48.7%	+1.3%

♦ Grade

K-G5	33,050	33,816	54.1%	+2.3%
G6-8	13,657	14,121	22.6%	+3.4%
G9-12	14,525	14,544	23.3%	+0.1%
Ungraded	0	0	0.0%	

♦ District-Wide Student Demographic Trends



12th Grade Graduates

	94-95	99-00	Change
Total 12th Grade	2,643	2,788	+5%
Earned a Diploma	2,154	2,304	+7%
% Earned Diploma	81%	83%	+2 PP

% Earned Diploma

College Entrance

	94-95	99-00	Change
2 Yr College	-	-	-
4 Yr College	-	-	-
Other Post-Secon.	-	-	-
Total C. E.	-	-	-
% C. E./Earned Dip.	-	-	-

% College Entrance

High School Graduation Requirements SY 99-00

- Mathematics
  - Two credits needed for graduation, as of 2001-2002, three credits will be needed.
- Science
  - Two credits needed for graduation, as of 2003-2004, three credits will be needed.
- Other
  - As of 2002-03, students will need a meaningful internship and a course in technology to graduate.

(-) Data Missing PP: Percentage Points

Math and Science Teachers & Certification

♦ Mathematics (G6-12)

		94-95	99-00	Change
G6-8	Teachers	144	174	+21%
	Certified	24	30	+25%
	% Cert.	17%	17%	+0 PP
G9-12	Teachers	104	120	+15%
	Certified	104	115	+11%
	% Cert.	100%	96%	-4 PP
Total	Teachers	248	294	+19%
	Certified	128	145	+13%
	% Cert.	52%	49%	-3 PP

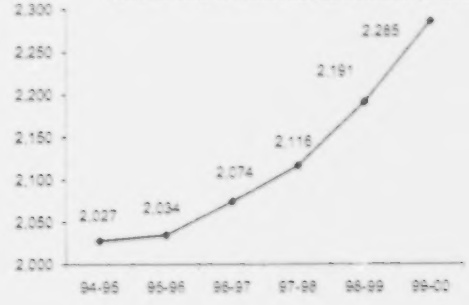
♦ Science (G6-12)

		94-95	99-00	Change
G6-8	Teachers	107	146	+36%
	Certified	17	25	+47%
	% Cert.	16%	17%	+1 PP
G9-12	Teachers	92	115	+25%
	Certified	92	115	+25%
	% Cert.	100%	100%	+0 PP
Total	Teachers	199	261	+31%
	Certified	109	140	+28%
	% Cert.	55%	54%	-1 PP

♦ Math and Science (K-G5)

		94-95	99-00	Change
K-G5	Teachers	1,580	1,730	+9%

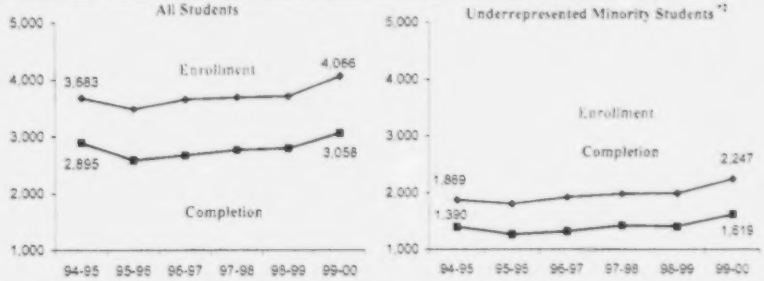
Total Number of Math and Sci. Teachers (K-G12)



Mathematics and Science Enrollment & Completion Trends/ All vs. URM

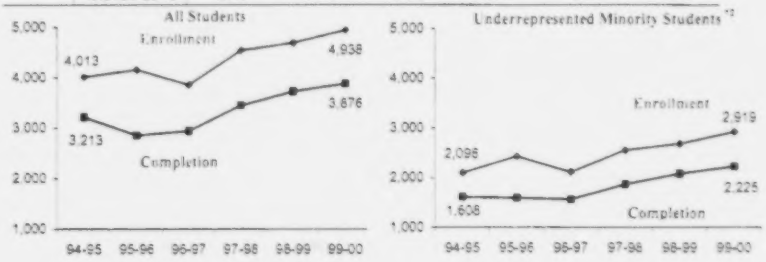
G 9-12 Mathematics Gate-Keeping Courses (Algebra II, Geo., and Calculus)

		94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		14,525	13,493	14,040	14,874	15,297	14,544
All Students	Enrollment	3,683	3,484	3,658	3,695	3,712	4,066
	Completion *1	2,895	2,586	2,670	2,765	2,798	3,058
	% Enroll/ G9-12	25%	26%	26%	25%	24%	28%
URM *2	Enrollment	1,869	1,805	1,925	1,979	1,988	2,247
	Completion *1	1,390	1,258	1,312	1,412	1,399	1,619
	% Enroll/ G9-12	23%	23%	23%	23%	22%	25%



G 9-12 Science Gate-Keeping Courses (Biology 1, Chem. 1, and Physics 1)

		94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		14,525	13,493	14,040	14,874	15,297	14,544
All Students	Enrollment	4,013	4,153	3,850	4,539	4,690	4,938
	Completion *1	3,213	2,850	2,941	3,443	3,721	3,876
	% Enroll/ G9-12	28%	31%	27%	31%	31%	34%
URM *2	Enrollment	2,096	2,425	2,108	2,554	2,681	2,919
	Completion *1	1,608	1,587	1,558	1,865	2,076	2,225
	% Enroll/ G9-12	25%	31%	25%	29%	30%	33%

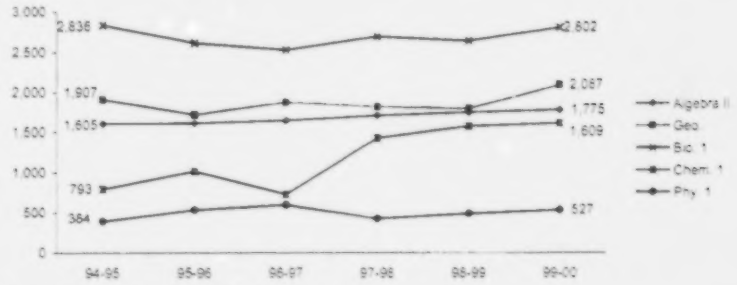


*1 Successful completion: grade 'D' or above.
*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Mathematics and Science Enrollment & Completion Trends By Subject

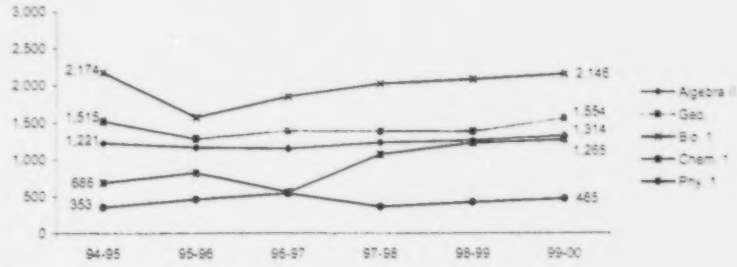
G 9-12 Course Enrollment (All Students)

	Algebra II	Geo.	Calculus *2	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
94-95	1,605	1,907	171	3,683	2,836	793	384	4,013
95-96	1,612	1,718	154	3,484	2,611	1,013	529	4,153
96-97	1,647	1,872	139	3,658	2,529	725	596	3,850
97-98	1,710	1,815	170	3,695	2,692	1,430	417	4,539
98-99	1,747	1,789	176	3,712	2,636	1,572	482	4,690
99-00	1,775	2,087	204	4,066	2,802	1,609	527	4,938



G 9-12 Course Completion *1 (All Students)

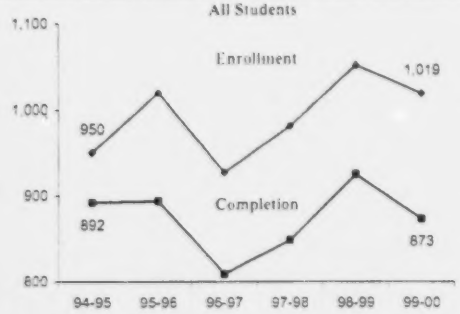
	Algebra II	Geo.	Calculus *2	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
94-95	1,221	1,515	159	2,895	2,174	686	353	3,213
95-96	1,164	1,277	145	2,586	1,569	821	460	2,850
96-97	1,148	1,388	134	2,670	1,845	556	540	2,941
97-98	1,226	1,378	161	2,765	2,021	1,064	358	3,443
98-99	1,254	1,376	168	2,798	2,078	1,224	419	3,721
99-00	1,314	1,554	190	3,058	2,146	1,265	465	3,876

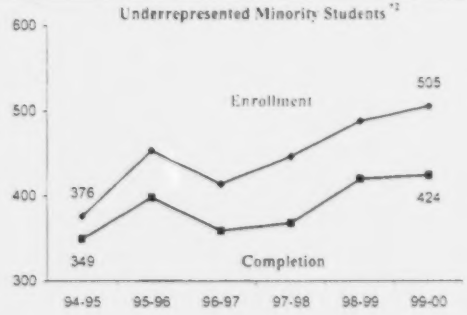


*2 Calculus not represented on graph

Algebra I or Above in 8th Grade Enrollment & Completion Trends/ All vs. URM

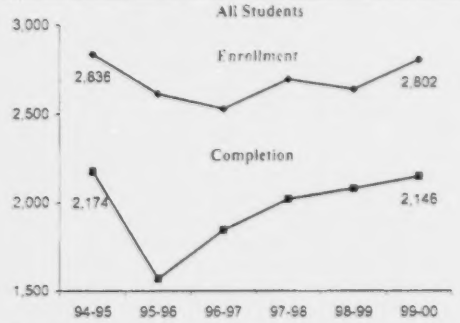
		94-95	95-96	96-97	97-98	98-99	99-00
Total G 8 Population		4,189	4,483	4,294	4,304	4,390	4,447
All Students	Enrollment	950	1,020	927	981	1,052	1,019
	Completion *1	892	894	809	848	925	873
	% Enroll/ G8	23%	23%	22%	23%	24%	23%
URM *2	Enrollment	376	453	414	446	488	505
	Completion *1	349	398	359	368	420	424
	% Enroll/ G8	16%	18%	17%	18%	20%	19%

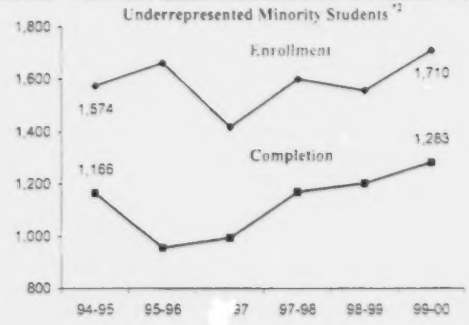




Biology Enrollment & Completion Trends/ All vs. URM

		94-95	95-96	96-97	97-98	98-99	99-00
All Students	Enrollment	2,836	2,611	2,529	2,692	2,636	2,802
	Completion *1	2,174	1,569	1,845	2,021	2,078	2,146
URM *2	Enrollment	1,574	1,662	1,419	1,600	1,556	1,710
	Completion *1	1,166	957	995	1,170	1,203	1,283





*1 Successful completion: grade 'D' or above.
*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Professional Development Participation of Teachers Teaching Mathematics and/or Science

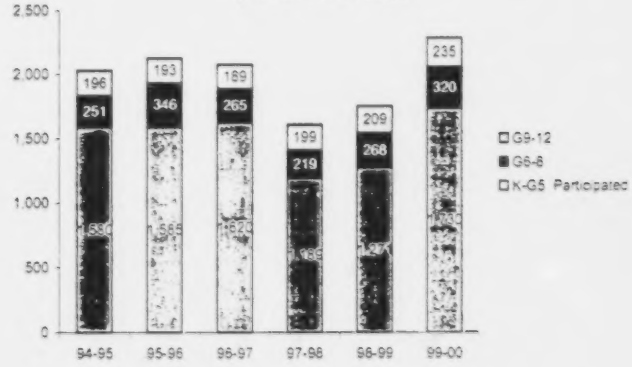
Total Number Teachers by Subject (G6-12)

	94-95	95-96	96-97	97-98	98-99	99-00
Mathematics	248	247	248	254	274	294
Science	199	202	206	214	237	261

Total Number of Teachers Participating in PD by Grade Level

Teachers	94-95	95-96	96-97	97-98	98-99	99-00
Total K-G5	1,580	1,585	1,620	1,648	1,680	1,730
# K-G5 Participated	1,580	1,585	1,620	1,189	1,271	1,730
% K-G5 Participated	100%	100%	100%	72%	76%	100%
Total G6-8	251	256	265	271	279	320
# G6-8 Participated	251	346	265	219	268	320
% G6-8 Participated	N/A	135%	100%	81%	96%	100%
Total G9-12	196	193	189	197	209	235
# G9-12 Participated	196	193	189	199	209	235
% G9-12 Participated	100%	100%	100%	101%	100%	100%

Number of Teachers Participating in Professional Development by Grade Level Taught



Number of Teachers by Duration of Professional Development

	94-95	95-96	96-97	97-98	98-99	99-00
1-59 Hours	1,947	1,718	1,361	1,234	1,136	1,032
60-119 Hours	50	302	633	260	474	832
120-200 Hours	30	84	50	49	82	299
More than 200 Hours	0	20	30	64	56	122

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District Assessment Test Administered

♦ Mathematics

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	MAT 7A	MAT 7A	MAT 7A	MAT 7A	MAT 7A	MAT 7A
Scoring	PC	PC	PC	PC	PC	PC
Grade	G 1-8	G 1-8	1, 2, 3, 5, 7	1, 2, 3, 5, 7	1, 2, 3, 5, 7	1, 2, 3, 5, 7
Type	NRT	NRT	NRT	NRT	NRT	NRT

♦ Science

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	MAT 7A	MAT 7A	MAT 7A	MAT 7A	MAT 7A	MAT 7A
Scoring	PC	PC	PC	PC	PC	PC
Grade	G 1-8	G 1-8	1, 2, 3, 5, 7	1, 2, 3, 5, 7	1, 2, 3, 5, 7	1, 2, 3, 5, 7
Type	NRT	NRT	NRT	NRT	NRT	NRT

State Assessment Test Administered

♦ Mathematics

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	Ohio Prof.	Ohio Prof.	Ohio Prof.	Ohio Prof.	Ohio Prof.	Ohio Prof.
Scoring	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail
Grade	4,6,8-12	4,6,8-12	4,6,8-12	4,6,8-12	4,6,8-12	4,6,8-12
Type	CRT	CRT	CRT	CRT	CRT	CRT

♦ Science

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	Ohio Prof.	Ohio Prof.	Ohio Prof.	Ohio Prof.	Ohio Prof.	Ohio Prof.
Scoring	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail
Grade	4,6,8-12	4,6,8-12	4,6,8-12	4,6,8-12	4,6,8-12	4,6,8-12
Type	CRT	CRT	CRT	CRT	CRT	CRT

MAT 7A: Metropolitan Achievement Test, 7th Edition, Abbreviated

Ohio Prof.: Ohio Proficiency Test

PC: Percentile SN: Stanine PL: Performance Level

PF: Pass/Fail SS: Scaled Score OT: Other

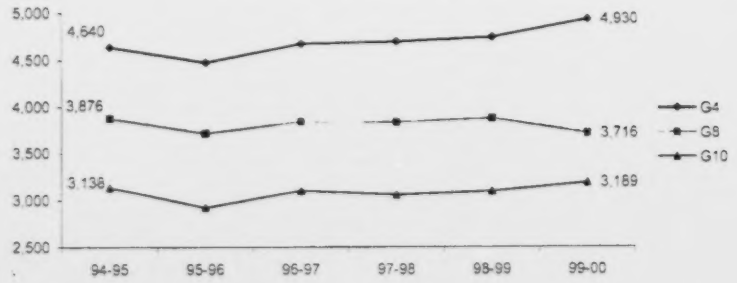
NRT: Norm-Referenced Test CRT: Criterion-Referenced Test

State Assessment Test-Taker Trends - Ohio Proficiency Test

♦ Mathematics

# of Test-takers	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4	4,640	4,475	4,675	4,693	4,742	4,930
Grade 8	3,876	3,716	3,843	3,837	3,878	3,716
Grade 10	3,138	2,926	3,102	3,058	3,096	3,189

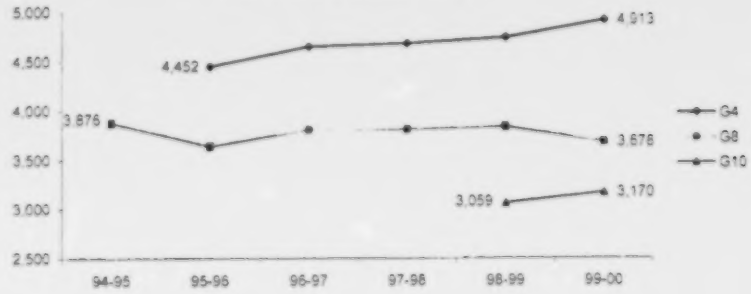
Total number of students taking test



♦ Science

# of Test-takers	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4		4,452	4,650	4,681	4,741	4,913
Grade 8	3,876	3,639	3,808	3,810	3,835	3,678
Grade 10					3,059	3,170

Total number of students taking test



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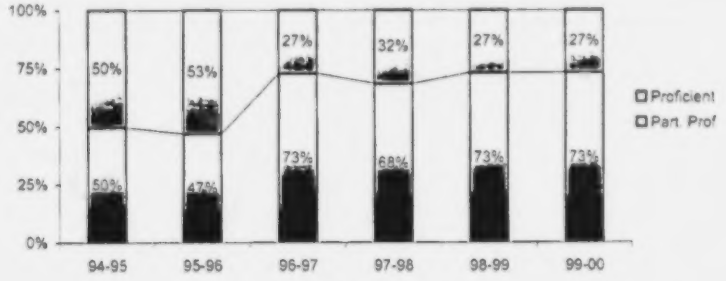
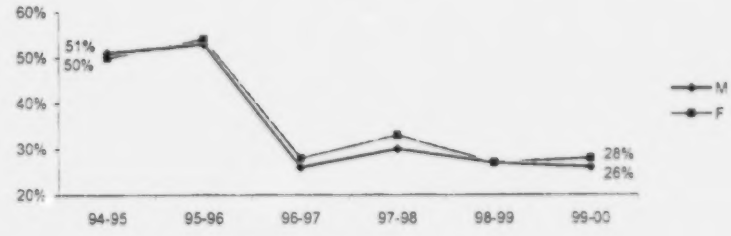
State Assessment Test Result Trends - Ohio Proficiency Test Mathematics

♦ **Grade 4**

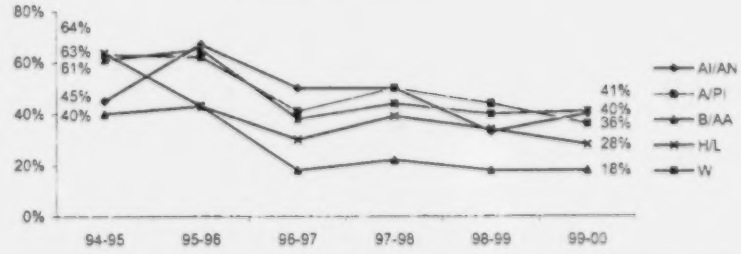
Pass/ Fail	94-95	95-96	96-97	97-98	98-99	99-00
Proficient	50%	53%	27%	32%	27%	27%
Partially Prof.	50%	47%	73%	68%	73%	73%
Total num of students	4,640	4,475	4,675	4,693	4,742	4,930



% Passing by Gender



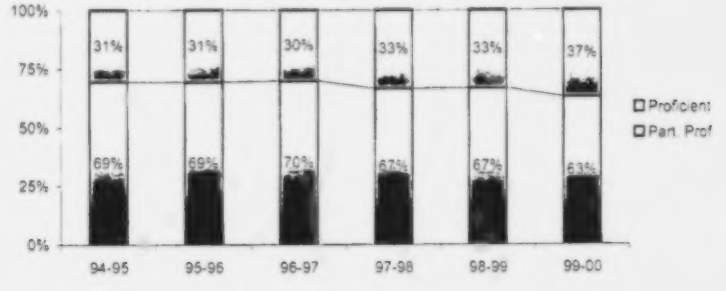
% Passing by Race/Ethnicity



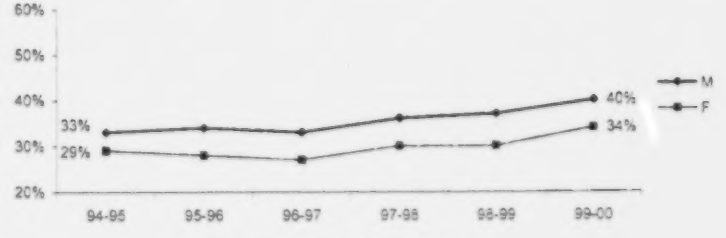
State Assessment Test Result Trends - Ohio Proficiency Test Mathematics

♦ **Grade 8**

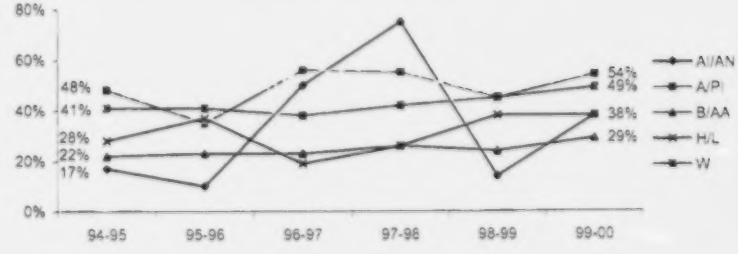
Pass/ Fail	94-95	95-96	96-97	97-98	98-99	99-00
Proficient	31%	31%	30%	33%	33%	37%
Partially Prof.	69%	69%	70%	67%	67%	63%
Total num of students	3,876	3,716	3,843	3,837	3,878	3,716



% Passing by Gender



% Passing by Race/Ethnicity



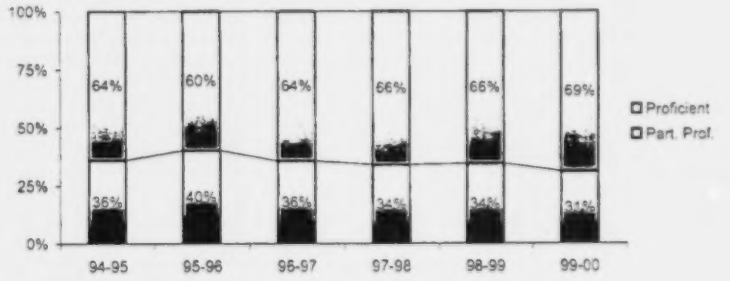
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as "Proficient"

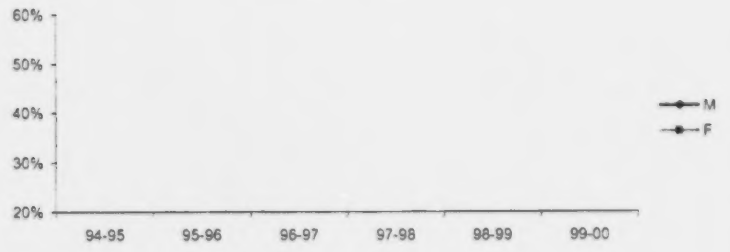
State Assessment Test Result Trends - Ohio Proficiency Test Mathematics

♦ Grade 10

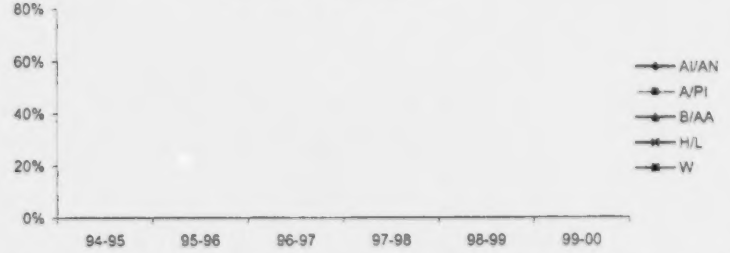
Pass/ Fail	94-95	95-96	96-97	97-98	98-99	99-00
Proficient	64%	60%	64%	66%	66%	69%
Partially Prof.	36%	40%	36%	34%	34%	31%
Total num of students	3,138	2,926	3,102	3,058	3,096	3,189



% Passing by Gender



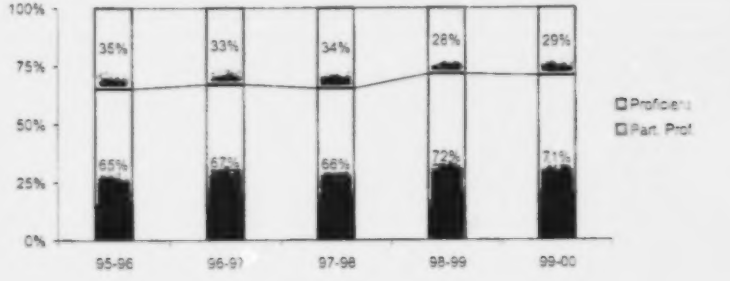
% Passing by Race/Ethnicity



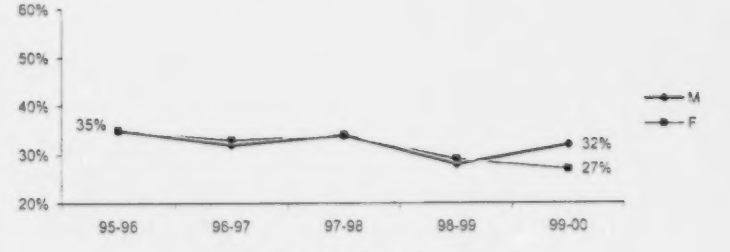
State Assessment Test Result Trends - Ohio Proficiency Test Science

♦ Grade 4

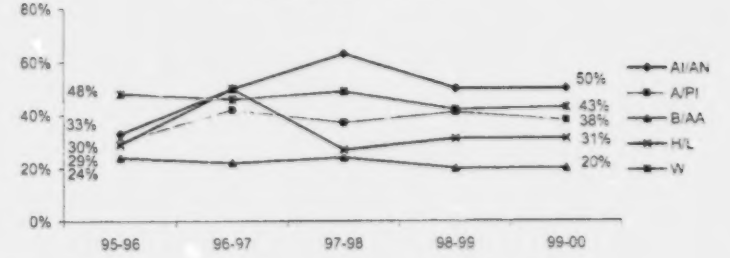
Pass/ Fail	94-95	95-96	96-97	97-98	98-99	99-00
Proficient	.	35%	33%	34%	28%	29%
Partially Prof.	.	65%	67%	66%	72%	71%
Total num of students		4,452	4,650	4,681	4,741	4,913



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

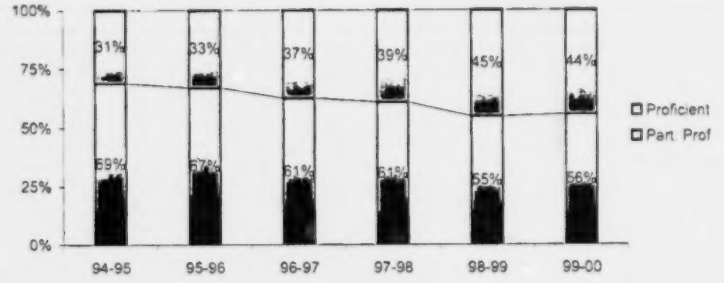
% Passing defined as "Proficient"

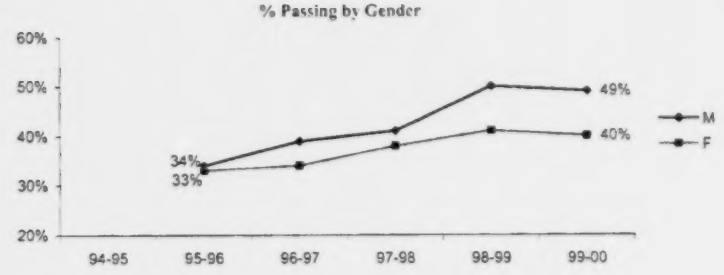
(.) Data Missing

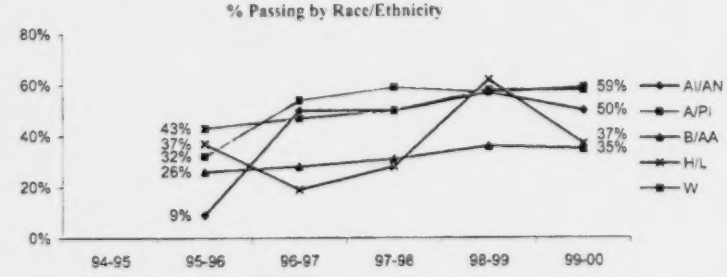
State Assessment Test Result Trends - Ohio Proficiency Test Science

♦ Grade 8

Pass/ Fail	94-95	95-96	96-97	97-98	98-99	99-00
Proficient	31%	33%	37%	39%	45%	44%
Partially Prof.	69%	67%	61%	61%	55%	56%
Total num of students	3,876	3,639	3,808	3,810	3,835	3,678



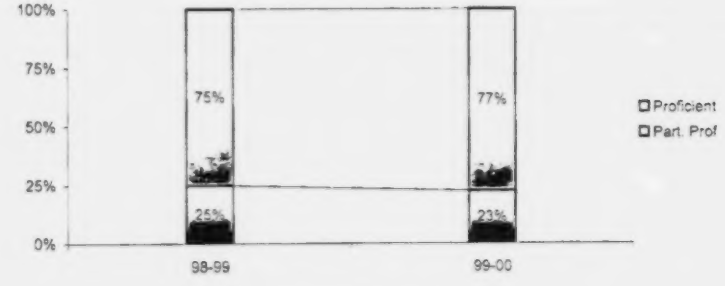


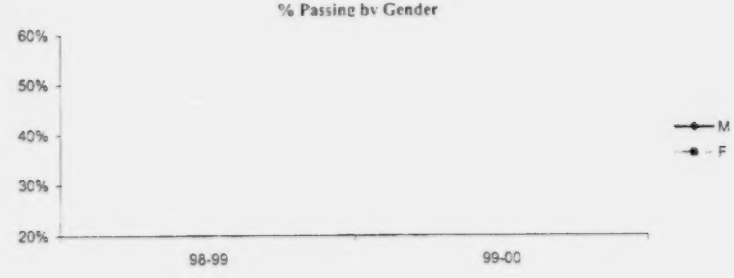


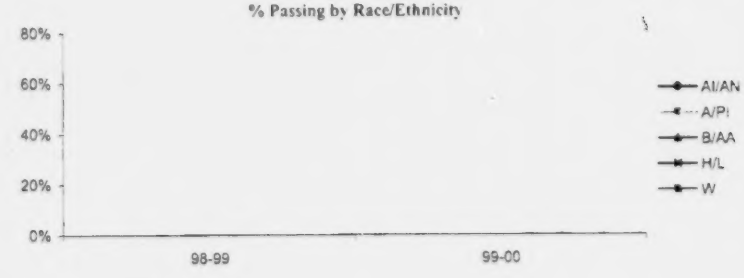
State Assessment Test Result Trends - Ohio Proficiency Test Science

♦ Grade 10

Pass/ Fail	94-95	95-96	96-97	97-98	98-99	99-00
Proficient	.	.	.	.	75%	77%
Partially Prof.	.	.	.	.	25%	23%
Total num of students	.	.	.	.	3,059	3,170







AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White
% Passing defined as "Proficient" (.) Data Missing

Columbus USI

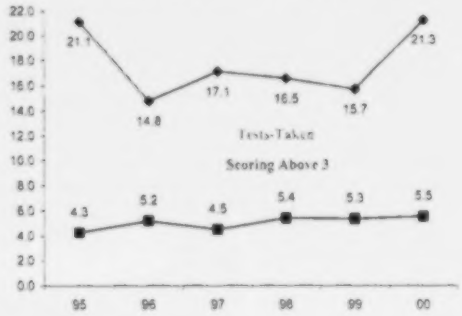
AP Mathematics Test Result Trends

♦ AP Mathematics (Calculus AB, Calculus BC, & Statistics)

♦ AP Mathematics - Total Number of Tests Taken

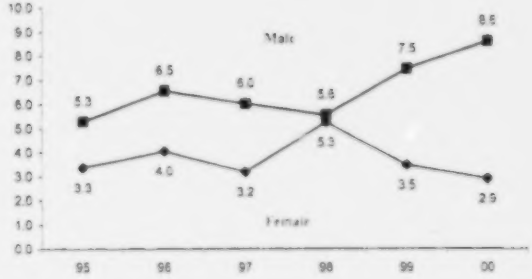
		95	96	97	98	99	00
Total num of 11th & 12th students		5,640	5,008	5,325	5,744	5,984	5,784
Tests Taken	Calc. AB	119	74	91	95	90	122
	Calc. BC	0	0	0	0	4	1
	Statistics	0	0	0	0	0	0
	Total	**119**	**74**	**91**	**95**	**94**	**123**
Num of tests taken/1,000 stu.		21.1	14.8	17.1	16.5	15.7	21.3
Scoring Above 3		24	26	24	31	32	32
Num of Above 3/ 1,000 students		4.3	5.2	4.5	5.4	5.3	5.5

Number of tests taken and scoring above 3 per 1,000 students



♦ AP Mathematics - Number of Students Scoring Above 3 By Gender per 1,000 Students

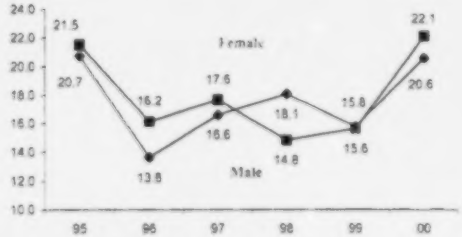
		95	96	97	98	99	00
Score Above 3 per 1,000	Male	5.3	6.5	6.0	5.6	7.5	8.6
	Female	3.3	4.0	3.2	5.3	3.5	2.9



♦ AP Mathematics - Number of Tests Taken By Gender Per 1,000 Students

		95	96	97	98	99	00
Tests Taken per 1,000	Male	21.5	16.2	17.6	14.8	15.6	22.1
	Female	20.7	13.6	16.6	18.1	15.8	20.6

Number of tests taken per 1,000 students by Gender



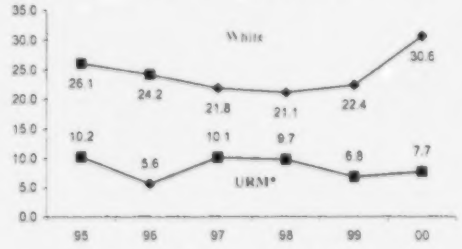
♦ AP Mathematics - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [*1]

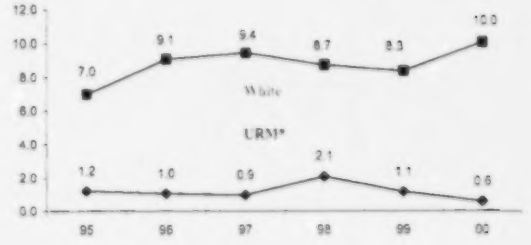
	95	96	97	98	99	00
AI/AN	83.3	0.0	0.0	0.0	0.0	0.0
A/PI	17.8	26.3	6.8	17.2	22.2	27.5
B/AA	0.9	0.7	1.0	2.1	0.6	0.3
H/L	0.0	27.0	0.0	0.0	37.0	14.3
W	7.0	9.1	9.4	8.7	8.3	10.0

♦ AP Mathematics - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [*1]

	95	96	97	98	99	00
AI/AN	83.3	0.0	111.1	0.0	0.0	0.0
A/PI	112.4	59.2	60.8	46.0	66.7	65.9
B/AA	9.8	5.3	9.6	9.6	5.8	7.3
H/L	18.9	27.0	24.4	19.2	74.1	28.6
W	26.1	24.2	21.8	21.1	22.4	30.6

Number of tests taken per 1,000 students by Race/Ethnicity





AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented

*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

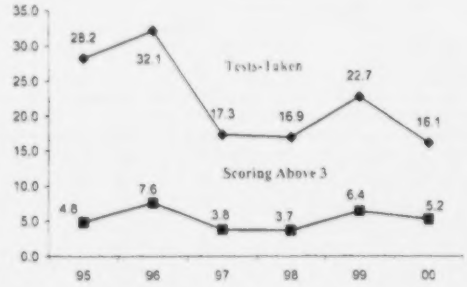
Columbus USI

AP Science Test Result Trends • **AP Science (Biology, Chemistry, Environ. Sci., Phy. B, Phy. C Mech., & Phy. C Elec.**

• AP Science - Total Number of Tests Taken

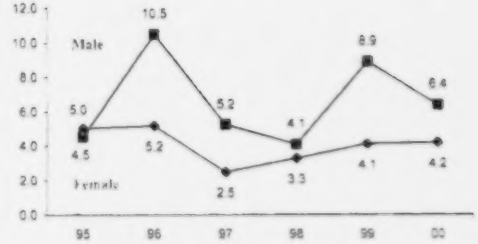
		95	96	97	98	99	00
Total num of 11th & 12th students		5,640	5,008	5,325	5,744	5,984	5,784
Tests Taken	Biology	49	62	30	45	49	49
	Chem.	88	54	44	28	33	26
	Enviro. Sci.	0	0	0	0	1	0
	Physics B	14	10	0	0	5	0
	Ph. C Mech.	4	22	9	14	28	18
	Ph. C Elec.	4	13	9	10	20	0
	Total	**159**	**161**	**92**	**97**	**136**	**93**
Num of tests taken/1,000 stu.		28.2	32.1	17.3	16.9	22.7	16.1
Scoring Above 3		27	38	20	21	38	30
Num of Above 3/ 1,000 students		4.8	7.6	3.8	3.7	6.4	5.2

Number of tests taken and scoring above 3 per 1,000 students



• AP Science - Number of Students Scoring Above 3 By Gender per 1,000 Students

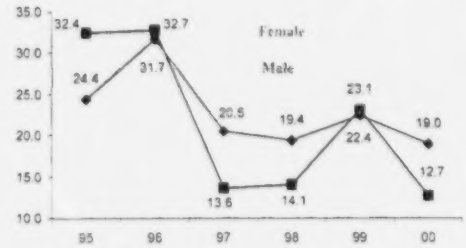
		95	96	97	98	99	00
Score Above 3 per 1,000	Male	4.5	10.5	5.2	4.1	8.9	6.4
	Female	5.0	5.2	2.5	3.3	4.1	4.2



• AP Science - Number of Tests Taken By Gender Per 1,000 Students

		95	96	97	98	99	00
Tests Taken per 1,000	Male	32.4	32.7	13.6	14.1	23.1	12.7
	Female	24.4	31.7	20.5	19.4	22.4	19.0

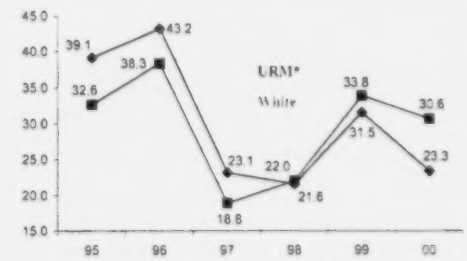
Number of tests taken per 1,000 students by Gender



• AP Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [1]

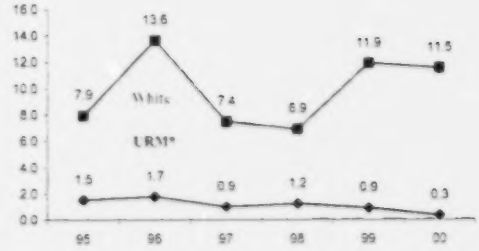
	95	96	97	98	99	00
AI/AN	83.3	0.0	0.0	0.0	0.0	0.0
A/PI	23.7	19.7	0.0	5.7	11.1	5.5
B/AA	1.2	1.4	1.0	1.2	0.9	0.3
H/L	0.0	27.0	0.0	0.0	0.0	0.0
W	7.9	13.6	7.4	6.9	11.9	11.5

Number of tests taken per 1,000 students by Race/Ethnicity



• AP Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [1]

	95	96	97	98	99	00
AI/AN	166.7	111.1	0.0	0.0	0.0	0.0
A/PI	94.7	105.3	67.6	51.7	33.3	5.5
B/AA	38.7	41.8	23.1	22.0	30.1	23.9
H/L	37.7	135.1	24.4	0.0	129.6	0.0
W	32.6	38.3	18.8	22.0	33.8	30.6



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[1] "Other" category not presented

*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

Columbus USI

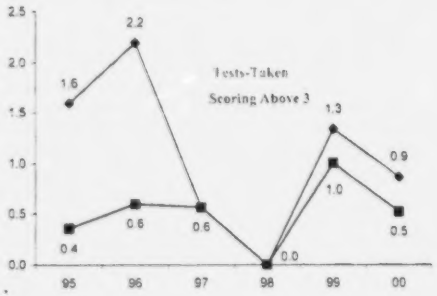
AP Computer Science Test Result Trends

♦ AP Computer Science (Computer Science A & AB)

♦ AP Computer Science - Total Number of Tests Taken

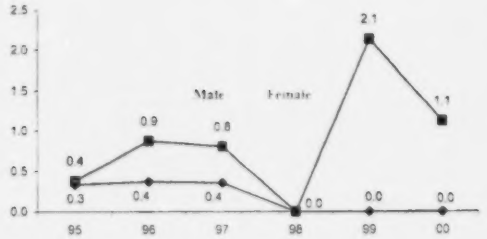
		95	96	97	98	99	00
Total Num of 11th & 12th students		5,640	5,008	5,325	5,744	5,984	5,784
Tests Taken	Comp. Sci A	7	3	0	0	1	0
	Comp. Sci AB	2	8	3	0	7	5
	Total	**9**	**11**	**3**	**0**	**8**	**5**
Num of tests taken/1,000 stu.		1.6	2.2	0.6	0.0	1.3	0.9
Scoring Above 3		2	3	3	0	6	3
Num of Above 3/ 1,000 students		0.4	0.6	0.6	0.0	1.0	0.5

Number of tests taken and scoring above 3 per 1,000 students



♦ AP Computer Science - Number of Students Scoring Above 3 By Gender per 1,000 Students

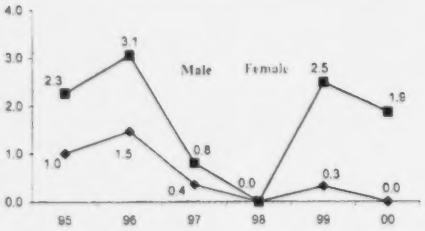
		95	96	97	98	99	00
Score Above 3 per 1,000	Male	0.4	0.9	0.8	0.0	2.1	1.1
	Female	0.3	0.4	0.4	0.0	0.0	0.0



♦ AP Computer Science - Number of Tests Taken By Gender Per 1,000 Students

		95	96	97	98	99	00
Tests Taken per 1,000	Male	2.3	3.1	0.8	0.0	2.5	1.9
	Female	1.0	1.5	0.4	0.0	0.3	0.0

Number of tests taken per 1,000 students by Gender



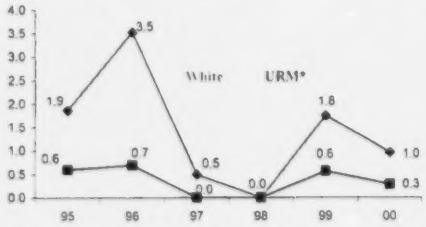
♦ AP Computer Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [*1]

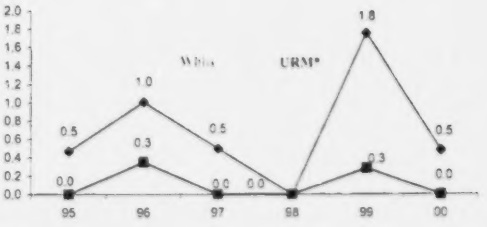
	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0	0.0
A/PI	0.0	0.0	13.5	0.0	0.0	0.0
B/AA	0.0	0.4	0.0	0.0	0.3	0.0
H/L	0.0	0.0	0.0	0.0	0.0	0.0
W	0.5	1.0	0.5	0.0	1.8	0.5

♦ AP Computer Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [*1]

	95	96	97	98	99	00
AI/AN	83.3	0.0	0.0	0.0	0.0	0.0
A/PI	11.8	6.6	13.5	0.0	5.6	0.0
B/AA	0.3	0.7	0.0	0.0	0.6	0.3
H/L	0.0	0.0	0.0	0.0	0.0	0.0
W	1.9	3.5	0.5	0.0	1.8	1.0

Number of tests taken per 1,000 students by Race/Ethnicity





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[*1] "Other" category not presented

*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

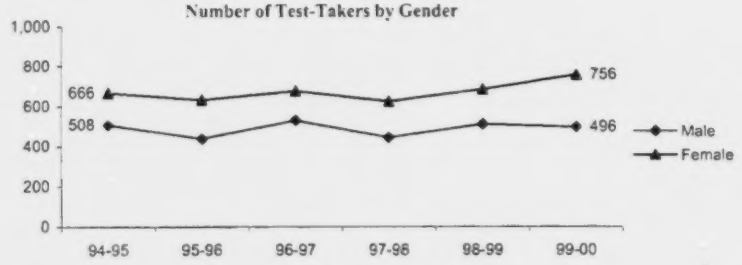
Columbus USI

ACT Test-Takers

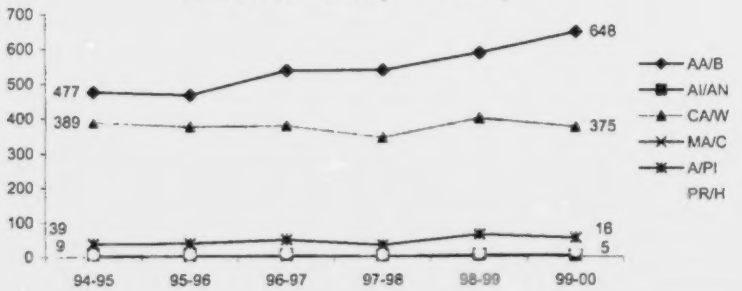
♦ Number of Test-Takers

		94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		2,643	2,315	2,481	2,665	2,843	2,788
Test-Takers		1,174	1,070	1,206	1,067	1,206	1,259
Num of Test-Takers/1,000 Stu.		444	462	486	400	424	452
Gender	Male	508	438	530	443	511	496
	Female	666	632	676	624	685	756
Race/Ethnicity	AA/B	477	468	538	539	588	648
	AI/AN	8	8	7	4	6	4
	CA/W	389	377	379	345	400	375
	MA/C	9	2	3	7	8	5
	A/PI	39	40	50	35	65	55
	PR/H	9	9	12	7	10	16

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity

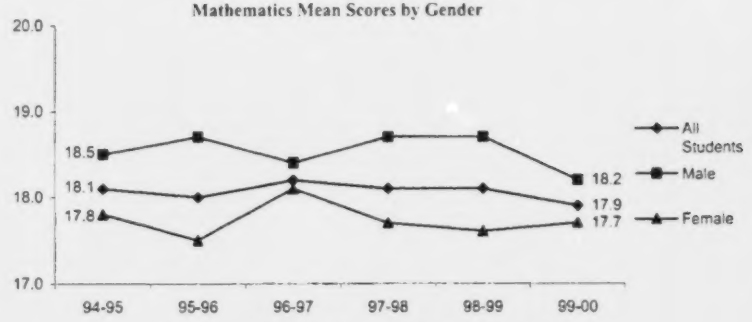


ACT Mathematics Scores

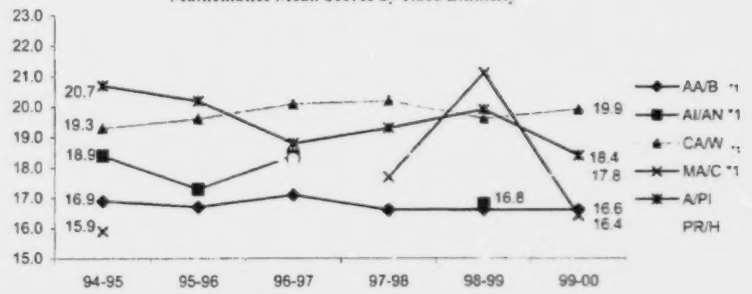
♦ Mathematics - Mean Score Trends

		94-95	95-96	96-97	97-98	98-99	99-00
All Students		18.1	18.0	18.2	18.1	18.1	17.9
Gender	Male	18.5	18.7	18.4	18.7	18.7	18.2
	Female	17.8	17.5	18.1	17.7	17.6	17.7
Race/Ethnicity	AA/B	16.9	16.7	17.1	16.6	16.6	16.6
	AI/AN *1	18.4	17.3	18.4	-	16.8	-
	CA/W	19.3	19.6	20.1	20.2	19.6	19.9
	MA/C *1	15.9	-	-	17.7	21.1	16.4
	A/PI	20.7	20.2	18.8	19.3	19.9	18.4
	PR/H	18.9	18.0	18.3	18.7	17.6	17.8

Mathematics Mean Scores by Gender



Mathematics Mean Scores by Race/Ethnicity



AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.
*1 Mean score not presented for sample size less than 5

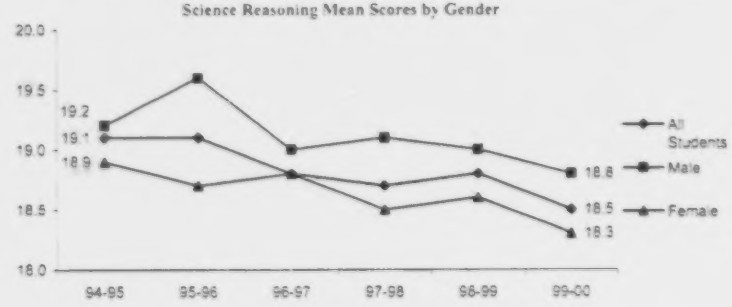
Columbus USI

ACT Science Reasoning Scores

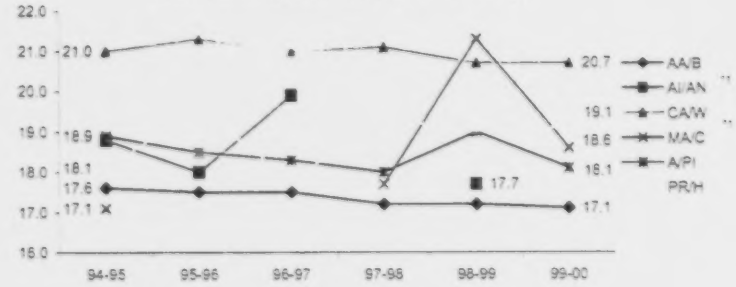
♦ Science Reasoning - Mean Score Trends

		94-95	95-96	96-97	97-98	98-99	99-00
All Students		19.1	19.1	18.8	18.7	18.8	18.5
Gender	Male	19.2	19.6	19.0	19.1	19.0	18.8
	Female	18.9	18.7	18.8	18.5	18.6	18.3
Race/Ethnicity	AA/B	17.6	17.5	17.5	17.2	17.2	17.1
	AI/AN [*1]	18.8	18.0	19.9	-	17.7	-
	CA/W	21.0	21.3	21.0	21.1	20.7	20.7
	MA/C [*1]	17.1	-	-	17.7	21.3	18.6
	A/PI	18.9	18.5	18.3	18.0	19.0	18.1
	PR/H	18.1	19.6	17.8	19.3	19.1	19.1

Science Reasoning Mean Scores by Gender



Science Reasoning Mean Scores by Race/Ethnicity



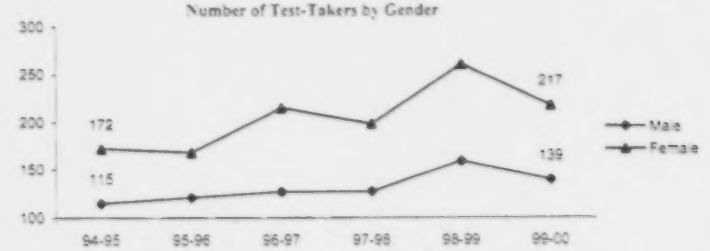
AA/B: African-American/Black, AI/AN: American Indian/Alaskan Native, CA/W: Cauc. American/White, MA/C: Mexican American/Chicano, A/PI: Asian/Pacific Islander, PR/H: Puerto Rican/Hispanic
*1 Mean score not presented for sample size less than 5

SAT Test-Takers

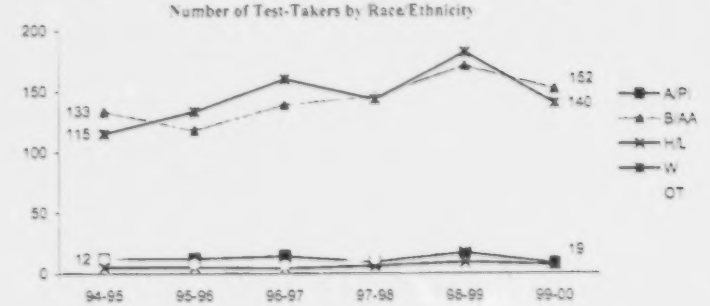
♦ Number of Test-Takers

		94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		2,643	2,315	2,481	2,665	2,843	2,788
Test-Takers		287	289	342	325	419	356
Num of Test-Takers/1,000 Stu.		109	125	138	122	147	128
Gender	Male	115	121	127	127	159	139
	Female	172	168	215	198	260	217
Race/Ethnicity	AI/AN [*2]	0	1	2	0	2	4
	A/PI	12	12	14	9	17	8
	B/AA	133	118	139	146	171	152
	H/L	5	5	4	6	9	7
	W	115	133	160	143	182	140
	OT	12	8	7	11	24	19

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity



AI/AN: American Indian/Alaskan Native, A/PI: Asian/Pacific Islander, B/AA: Black or African American, H/L: Hispanic or Latino, W: White, OT: Others
*2 Number of Test-Takers less than 5 not presented in graph

Columbus USI

SAT Mathematics Scores

♦ **Mathematics - Mean Score Trends**

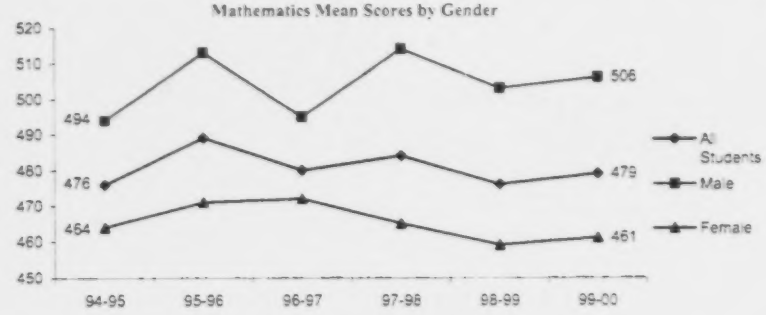
		94-95	95-96	96-97	97-98	98-99	99-00
All Students		476	489	480	484	476	479
Gender	Male	494	513	495	514	503	506
	Female	464	471	472	465	459	461
Race/Ethnicity	AI/AN [1]	-	-	-	-	-	-
	A/PI	511	581	453	481	533	565
	B/AA	435	451	434	445	421	427
	H/L [1]	458	440	-	420	493	463
	W	517	517	520	525	518	532
	OT	498	473	540	489	455	465

SAT Verbal Scores

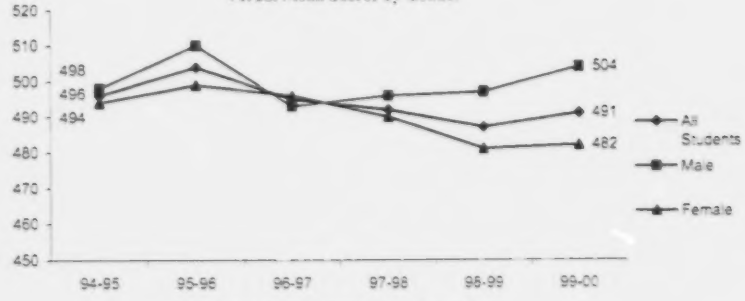
♦ **Verbal - Mean Score Trends**

		94-95	95-96	96-97	97-98	98-99	99-00
All Students		496	504	495	492	487	491
Gender	Male	498	510	493	496	497	504
	Female	494	499	496	490	481	482
Race/Ethnicity	AI/AN [1]	-	-	-	-	-	-
	A/PI	494	488	429	434	475	450
	B/AA	455	470	451	450	434	440
	H/L [1]	408	450	-	492	474	473
	W	543	537	535	537	535	549
	OT	508	561	560	493	475	516

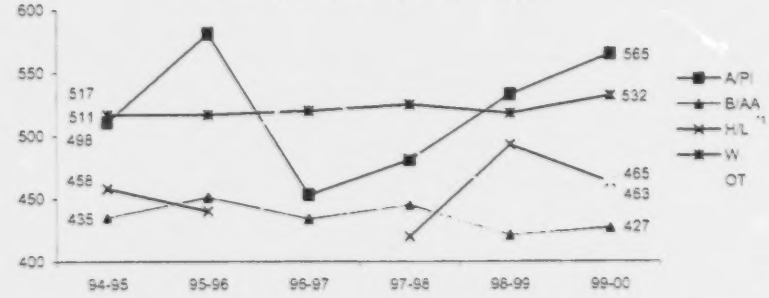
Mathematics Mean Scores by Gender



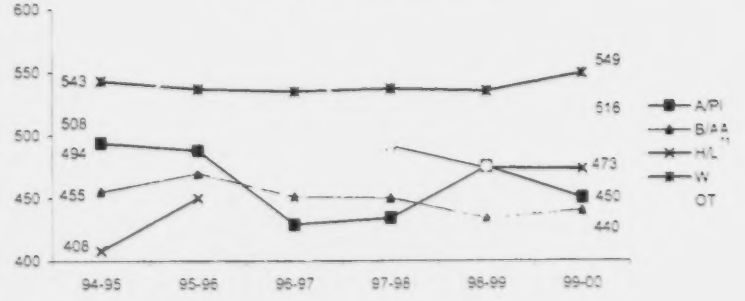
Verbal Mean Scores by Gender



Mathematics Mean Scores by Race/Ethnicity



Verbal Mean Scores by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

[1] Mean score not presented for sample size less than 5

Columbus USI

Cohort/Scale-Up Approach

	95-96	96-97	97-98	98-99	99-00
Number of District Schools*:	*135*	*135*	*135*	135	134
USI Schools**:	12	63	98	98	134
% Schools:	9%	47%	73%	73%	100%

*Core Data Elements 2000-2001 ; ** K-1 2001

Italics: Data Imputed

Primary Decision Making Body

Standards Curriculum	State
Curriculum/TextBook Adoption	District
Student Assessment	State
Professional Development	District
Resources	District
Teacher Hiring	School
Teacher Contracts	District
Certification & Re-certification	State
Graduation Requirements	District
School-Based Management?	Yes

Policies Promoting Equal Access by All Students in High Quality Education

Student Tracking:
- Commitment to the elimination of tracking in order to provide student access to a substantive program of core academic courses.

Criteria for Entry into High Level Mathematics and Science Courses:
- All students have access to unitary curricula in mathematics and science
- All students required to take algebra by G9

Availability of High Level Courses:

Special Education and Bilingual Students:
- Instruction based upon regular curriculum with support provided as needed to ensure student success at his/her highest level

Policies Impacting the Enrollment of Students in Challenging Math and Science Courses

Attendance:
- Attendance rate at a school part of their state-issued "Report Card"

Guidance:
- Guidance counselors attend USI-sponsored PD in order to reinforce the need to place all students in higher level math and science courses

Student Support Systems:
- Math-Science Centers tutor and enrich students in mathematics and science
- Nationwide Insurance Co. provides summer math tutoring program for 8th graders
- The Limited tutors kindergarten students in math & reading.

Others:
- College sponsored hands on math-science program for middle school students
- Graduation requirements: By 2002, 4 years of math; By 2004, 3 years of science required

Policies Relevant to Curriculum

Framework:
- Ohio Proficiency Standards

Curricula:
- Ohio Model Curriculum in Science

Curricula Materials:
- Math Applications/Connections
- Full Option Science System (FOSS)
- Insights
- DELTA
- Algebra to Calculus
- Biology, Chemistry, Physics (Glencoe)
- AP (Addison, Wesley, Saunders)

New Courses Added as a Result of USI:
- Science Research Issues
- Pacesetter Mathematics (replaces Precalculus)

Instructional Time:
- Many high and middle schools use block scheduling to extend instructional time in core

Standards-based Curricula and Instruction

Standards Adopted:
- National Council of Teachers of Mathematics
- Ohio Proficiency Standards
- Science For All Americans
- Benchmarks for Science Literacy

Primary Instructional Strategies:
- Hands-on
- Inquiry-based experiences
- Cooperative Learning
- Lecture

% of Students Experiencing Standards-based Mathematics Curricula:	E: 75% M: 65% H: 55%
% of Students Experiencing Standards-based Science Curricula:	E: 55% M: 65% H: 55%

E: Elementary School M: Middle School H: High School

Columbus USI

Policies Relevant to Teacher Qualifications

Certification:	• Professional Development required in area of certification or specialization for teacher recertification; monitored by Local PD Committee • Recent college graduates with pending certification are the only uncertified teachers hired
Requirement & Hiring Practices	• Mathematics and science teachers and minorities recruited • School teams select new staff • 3 year commitment to job
Professional Advancement & Leadership Training:	• Training for building leadership teams • Leadership trainees for administrative positions
Contract Requirements:	• Demonstrated proficiency with technology required for new hires • Licensure

Professional Development Policies and Practices

Time Required or Supported:	• Professional Development sessions held during regular school hours, before/after school, on weekends and during the summer • District makes 33 hours available for professional development at USI schools, 6 hours must be devoted to mathematics or science
Financial Resources Provided:	
Alignment to Student Standards:	• Everyone teaching Math/ Science/ Technology PD receives copy of CPS Courses of Study to ensure uniformity of delivery
Measurement of Impact:	• Schools use achievement test data, community & student input and teacher surveys to identify professional development that has the greatest potential to impact student achievement in 1 year time frame • Classroom observation
Type and Amount Received by Average Math/Science Teacher:	• Teachers receive systematic professional development in hands-on, inquiry-based mathematics and science instruction • USI sponsored graduate courses available to all
Evaluation Instruments:	• Survey, classroom observations
Professional Development Alignment to Content Standards Measures:	• Teacher Support Teams (TST) assist teachers in identifying and meeting instructional needs. Teams includes a math and science advocate. There are 214 advocates.
Teacher's Instructional Practices Evaluation:	• TST's assist teachers in planning, developing & implementing effective instruction, on-site and through TST-led graduate course participation. • Principals or department chairs observe teachers to evaluate performance for contract purposes
Impact on Student Achievement:	• Test scores • Classroom observation by external evaluator • Teacher reflection • Alternative assessments (USI Plus)

Policies Relevant to Standards-based Assessments

Extent to Which Assessments are Aligned to District Standards and Curricula:	• The Metropolitan Achievement Test (MAT-7), and the Ohio Proficiency Test are aligned with state and national model curricula. Target Track Assessments are aligned with Ohio Proficiency Test. State proficiency tests in math and science administered in grades 4, 6, 8, 12. Aligned with local state and national standards
Methods stakeholders are informed of goals, objectives and accomplishments of assessment program:	• Classroom teachers • School programs • School newsletters • USI brochure • Videos • School Report Card from the state • Ohio Department of Education • Superintendent's address "State of the District"

USI Leadership, Governance, and Management

Superintendent:	• New Superintendent as of 1997-98 • Site-based management
USI Office:	• New Project Director as of 1997-98 • Project Evaluator and 10 Staff • Deputy Superintendent for Academic Achievement in a newly created position in 2000, working with Executive Director of Accountability to increase staff accountability for student achievement. • USI Project Director reports to Deputy Superintendent, who is Co-Principal Investigator of the USI
Community Key Personnel:	• President, Chamber of Commerce • Mayor, City of Columbus • CEO/President, Center of Science & Industry • Ohio Superintendent of Public Education • The Columbus Foundation

Teacher Leaders:
- 34 Teacher Support Team members

Partnerships

Other Key Initiatives:
- Title I
- Eisenhower National Clearinghouse
- North Central Regional Education Laboratory
- Ohio SchoolNet Initiative
- Ohio Department of Education Urban Congress
- Discovery: Ohio Systemic Initiative

Community Stakeholders:
- The Center of Science & Industry
- Franklin Park Conservatory
- Columbus Zoo
- Ohio Department of Natural Resources
- The Urban League

Higher Education:
- Ohio State University
- Columbus State Community College
- Ohio Dominican College
- Central State University
- Otterbein College

Business and Industry:
- Battell Memorial Institute
- The Limited
- Tomorrow's Leaders
- Nationwide Insurance
- Ameritech
- Lucent Technologies
- William Sheridan and Associates

Other Partnerships:
- The Wildlife Conservation Program
- The Ohio Energy Project
- Science & Math Network of Central
- The Girl Scout Seal of Ohio
- Invention Convention
- Merrymakers (Young Astronauts)
- Parent Support Team consists of 1 or 2 preschool work with other parents to enable for their child's education.

Other Partnerships:
- Mathematics Science Centers assist students in 15 community locations

Policy Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	• There were a variety of mathematics and science courses available for students. A few examples are "General Math" and "General Science"
	• In 1993, teachers were introduced to hands-on mathematics instruction
	• Science largely textbook-based
	• There were very few opportunities endorsed by the district outside of school and beyond the school day for mathematics and/or science enrichment, i.e., informal math programs. In science, students had opportunities to visit the Columbus Zoo, COSI, and
1995-96	• "General" courses were eliminated
	• USI Action Team provides guidance in developing math & science policies that lead to successful implementation of USI activities
	• The mathematics and science programs have a common focus because of the emphasis on standards-based curricula
	• In TUIT (Interns and Teachers Using Innovative Techniques), a Goals 2000 grant, co-sponsored by the Ohio State University and the Columbus USI, worked intensively with high school teachers and pre-service masters-level teachers to implement integrated MST
1996-97	• The Teacher Support Team taught two university level courses in mathematics and science instruction for district teachers and administrators
	• USI schools were required to create building implementation plans for the use of USI funds for professional development in mathematics and science instruction
1997-98	• The District Equity Policy provides equal access for all students to all district programs. Funds are disbursed based on an allocation formula and school equity plans.
	• The district adopted a restructuring policy promoting site-based decision-making at the building level. School staffs have greater control of their budgets, choice of professional development, and selection of staff.
1998-99	• USI Plus instituted: selected by math and science staff at 49 USI schools, the program consisted of intensive treatment, the use of open-ended assessments, external evaluation of the program, and increased Teacher Support Team or site services
	• Grade level benchmarks and instructional guides were written for each curricular area and are aligned with state learner competencies
1999-00	• "Target Teach" assessments for mathematics and reading were developed and implemented as quarterly measures to monitor achievement and inform instruction.

Columbus USI

Curriculum and Instruction Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	•Standards-based curricula implemented in math in 1993 and in science in 1995 are aligned with state models (science- Ohio Model Curriculum in Science, Science for all Americans, and Benchmarks for Science Literacy, Math- Nationa Council of Teachers of Mathematics.
1995-96	•Science kits were adopted for science instructio
1996-97	•No changes reported
1997-98	•No changes reported
1998-99	•Creation of benchmarks and instructional guides for mathematics and science for each grade level •Alignment of mathematics materials with State Learning Competencies
1999-00	•Block scheduling: E: 4-blocks; M & H: Extended instructional time in core areas. •Algebra for All piloted at 5 high schools •Creativity of instructional guides to accompany benchmarks for mathematics and science for each grade level. •Tomorrows Innovators (Business and Industry partners) provide MST internships for students.

Professional Development Policy and Program Changes to Support Teachers During USI Implementation

School Year	Policy Implemented
Before USI	•The professional development system had delivery problems because of a lack of substitute teachers to cover classes in order for teachers to attend professional development sessions. In addition, the math and science staff was small
1995-96	•Professional development was provided for teachers in the use of science kits •The district funds a department of staff development, which provides intensive support for mathematics and science •Release time for professional development occurs on a monthly basis •Use of fee waivers at local universities for USI-sponsored and district-endorsed mathematics, science and technology courses •Teacher Support Team implemented building-based and district level professional development in math and science •The two week In TUIT class (planned by USI, CPS, and OSU staff members) in project-based instruction was held for Year I high school math and science teachers. Teachers received six hours of graduate credit and follow up (support and assistance of a st
1996-97	•The Teacher Support Team taught integrated mathematics and science university-level courses to Columbus Public Schools teachers. Course of study objectives and state learning competencies were the basis for lessons taught •District policy allocated professional development funds to schools to facilitate site-based decision-making and governance • Student non-attendance days used for staff-selected professional development in mathematic and science instruction •40% of early releases devoted to math and/or science professional development
1997-98	•Ongoing proficiency test seminars for school teams, by elementary, middle and high school levels •SummerTech •Leadership Academy, •Job-embedded professional development •Courses co-sponsored by USI and universities
1998-99	•A comprehensive math and science professional development program, *USI Plus*, was created by USI staff with input from classroom teachers, administrators, central office, and university faculty. To be eligible for USI Plus, 67% of math and science teach •USI Plus course implemented introducing teachers to the CECA model: implementing a standards-based Curriculum, using an appropriate educational delivery system, summarizing the concept, and alternative assessments
1999-00	•Four district-wide student non-attendance days approved by Ohio DoE for professional development •Cohort V schools took USI Plus course and received professional development from the Teacher Support Team.

Standards-based Assessment System Changes During USI Implementation

School Year	Policy Implemented
Before USI	• The state standards-based assessment system was the Ohio Proficiency Test. It was aligned with state and national standards. The ninth grade test was the exit test for high school. The twelfth grade test was taken by those students who had passed all • In addition to the OPT, the district administered the MAT7 at grades 1 through 8. Science was optional. There was a criterion-referenced mathematics test developed by district teachers, and administered to students in grades 1-8.
1995-96	• Science was added as a proficiency area on the Ohio Proficiency Test. • The sixth grade test was added to the OPT • The MAT7 was made optional at proficiency grades
1996-97	• The cut score was raised on the fourth grade Ohio Proficiency Test. The passing score in mathematics went from 200 to 210 • The cut score was raised on the twelfth grade Ohio Proficiency Test. The passing score in mathematics went from 200 to 209
1997-98	• The cut score was raised on the twelfth grade Ohio Proficiency Test, mathematics section, from 209 to 218
1998-99	• The cut score was raised on the fourth grade Ohio Proficiency Test: mathematics from 210 to 218 and science from 210 to 215
1999-00	• Target Teach assessments were used quarterly in reading and mathematics G1-8. • Kindergarten Benchmark assessment was administered in reading and math, Fall & Spring.

School District Progress Report

March 2002

Urban School Key Indicators of Science and Mathematics Education: 2001

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Fresno USI

Project Information

USI Project Title : Fresno USI
Cohort: 94 (Sept. 95 - Aug. 00)
USI Web Site:

♦ PI, CO-PI and PD

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♦ Mailing Address

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2309 Tulare St.
Fresno, CA 93721

♦ USI Schools Math & Sci. Teachers and Students

99-00	Schools	Teachers	Students
K-G5 (Elementary)	60	2,311	46,247
G6-8 (Middle)	18	318	11,771
G9-12 (High)	13	275	21,324
Total	91	2,904	79,342

(-) Data Missing

Project Summary

The Fresno Systemic Initiative (FUSI) embraces seven key elements for systemic change; (1) develop leadership capacity at all levels; (2) reform curriculum and delivery systems; (3) align policies and practices; (4) develop student support systems; (5) implement professional enhancement strategies; (6) build partnerships with business and community; and (7) empower students and teachers with technology.

Local initiatives include: (1) establishing schools as neighborhood centers and safe havens (2) and improving mathematics, science, and technology facilities with future bond money.

Each of these elements is designed to create sweeping changes in the way that teachers teach and students learn. Strong evaluation and accountability components are in place to ensure the initiative's success. The Fresno Unified School District and the City of Fresno, in collaboration with other local agencies, are committed to establishing schools as the nerve center of the neighborhood and safe havens for children, as well as providing families with much-needed services.

Project Goals

- To improve the scientific and mathematical literacy of all students in the Fresno Public Schools.
- To prepare all students to participate in a technological society.
- To enable and encourage a significantly greater number of Fresno students to pursue careers in mathematics, science, engineering, and technology.

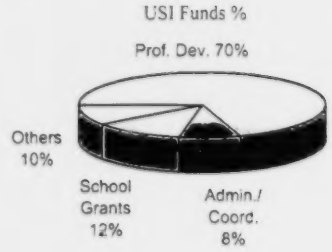
Selected School Indicators (District Average)

	94-95	99-00	Change
%Special Ed.	10.5%	10.9%	+0.4 PP
%LEP	32.5%	31.8%	-0.7 PP
%FRL	65.6%	72.9%	+7.3 PP
%Daily Ave. Atten.	93.4%	·	·
%Average Retained	5.1%	·	·
%Drop-Out	6.3%	·	·
%Mobility	31.0%	·	·
Per Pupil Cost ($)	$4,569	·	·
Num of Students Per Computer	·	5	·
% Classrooms Internet Access	0.0%	56.0%	+56.0 PP
Average Class Size	28	22	-21.4%

PP: Percentage Points

District and USI Fund Utilization (SY 1999-00)

	District	USI
Prof. Dev.	23%	70%
Admin./Coord.	7%	8%
School Grants	5%	12%
Others	65%	10%
Total	100%	100%



Fresno USI

Student Demographics (SY 1999-00)

District Total:	79,342	
USI Schools:	79,342	100%

♦ Race/Ethnicity

	94-95	99-00	%	% Change
Ame. Ind./Ala. Nat.	603	661	0.8%	+9.6%
Asian/P. Islander	17,591	14,931	18.8%	-15.1%
Black	8,226	9,238	11.6%	+12.3%
Hispanic	31,164	37,931	47.8%	+21.7%
White	19,451	931	1.2%	-95.2%
Other	0	16,581	20.9%	•
Total	77,035	79,342		+3.0%
URM Total	39,993	47,830	60.3%	+19.6%

URM: Underrepresented Minority students.

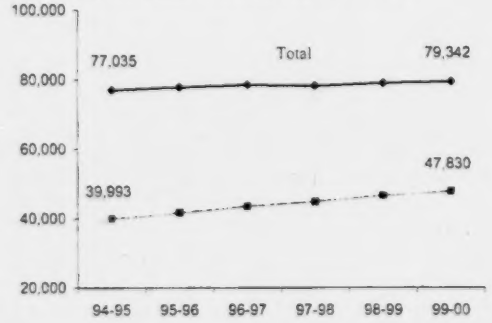
♦ Gender

Male	39,430	40,308	50.8%	+2.2%
Female	37,605	39,034	49.2%	+3.8%

♦ Grade

K-G5	40,733	40,066	50.5%	-1.6%
G6-8	18,083	17,938	22.6%	-0.8%
G9-12	18,175	21,324	26.9%	+17.3%
Ungraded	44	14	0.0%	-68.2%

♦ District-Wide Student Demographic Trends



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12th Grade Graduates

	94-95	99-00	Change
Total 12th Grade *1	3,213	3,474	+8%
Earned a Diploma *2	2,974	3,686	+24%
% Earned Diploma	93%	106%	+13 PP

% Earned Diploma

College Entrance

	94-95	99-00	Change
2 Yr College	1,096	1,688	+54%
4 Yr College	877	844	-4%
Other Post-Secon.	20	128	+540%
Total C. E.	1,993	2,660	+33%
% C. E./Earned Dip.	67%	72%	+5 PP

% College Entrance

High School Graduation Requirements SY 99-00

- Mathematics
  - 20 units
- Science
  - Biological Science - 10units
    Physical Science - 10units
- Other
  - Eng./Lang.-30units; U.S. History-10units
    Economics-5units; Physical Edu.-30units

*1 Enrollment as of 11/99
*2 Earned Diploma Spring 2000

PP: Percentage Points

Math and Science Teachers & Certification

♦ Mathematics (G6-12)

		95-96	99-00	Change
G6-8	Teachers	81	174	+115%
	Certified	73	163	+123%
	% Cert.	90%	94%	+4 PP
G9-12	Teachers	90	159	+77%
	Certified	89	159	+79%
	% Cert.	99%	100%	+1 PP
Total	Teachers	171	333	+95%
	Certified	162	322	+99%
	% Cert.	95%	97%	+2 PP

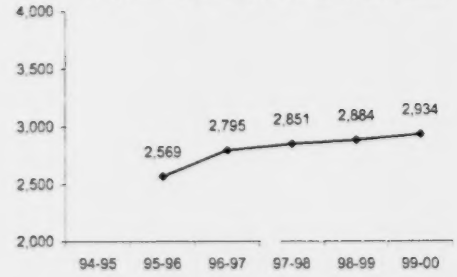
♦ Science (G6-12)

		95-96	99-00	Change
G6-8	Teachers	70	145	+107%
	Certified	57	133	+133%
	% Cert.	81%	92%	+11 PP
G9-12	Teachers	89	125	+40%
	Certified	87	103	+18%
	% Cert.	98%	82%	-16 PP
Total	Teachers	159	270	+70%
	Certified	144	236	+64%
	% Cert.	91%	87%	-4 PP

♦ Math and Science (K-G5)

		95-96	99-00	Change
K-G5	Teachers	2,239	2,331	+4%

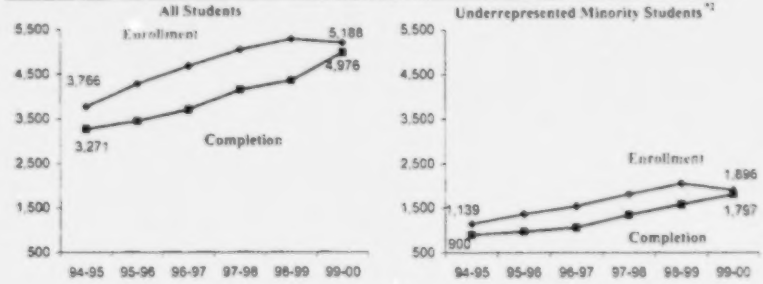
Total Number of Math and Sci. Teachers (K-G12)



Mathematics and Science Enrollment & Completion Trends/ All vs. URM

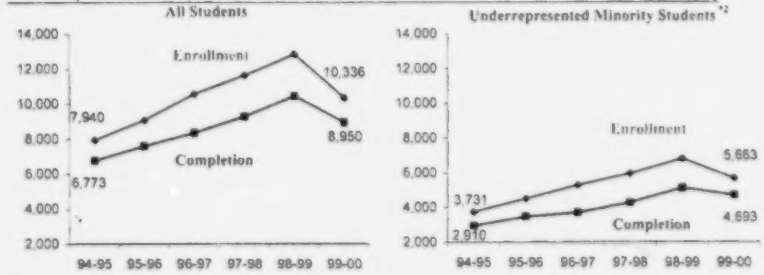
G 9-12 Mathematics Gate-Keeping Courses (Algebra II, Geo., and Calculus)

		94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		18,175	19,484	20,490	20,642	21,060	21,324
All Students	Enrollment	3,766	4,271	4,674	5,033	5,270	5,188
	Completion *1	3,271	3,448	3,698	4,139	4,346	4,976
	% Enroll/ G9-12	21%	22%	23%	24%	25%	24%
URM *2	Enrollment	1,139	1,361	1,536	1,803	2,038	1,896
	Completion *1	900	973	1,062	1,345	1,568	1,797
	% Enroll/ G9-12	12%	13%	14%	16%	18%	16%



G 9-12 Science Gate-Keeping Courses (Biology 1, Chem. 1, and Physics 1)

		94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		18,175	19,484	20,490	20,642	21,060	21,324
All Students	Enrollment	7,940	9,075	10,554	11,631	12,839	10,336
	Completion *1	6,773	7,590	8,349	9,273	10,446	8,950
	% Enroll/ G9-12	44%	47%	52%	56%	61%	48%
URM *2	Enrollment	3,731	4,487	5,273	5,949	6,812	5,663
	Completion *1	2,910	3,447	3,694	4,257	5,108	4,693
	% Enroll/ G9-12	40%	44%	49%	53%	59%	48%



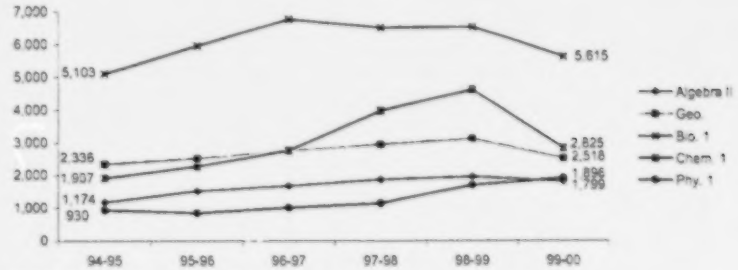
*1 Successful completion: grade 'D' or above.

*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Mathematics and Science Enrollment & Completion Trends By Subject

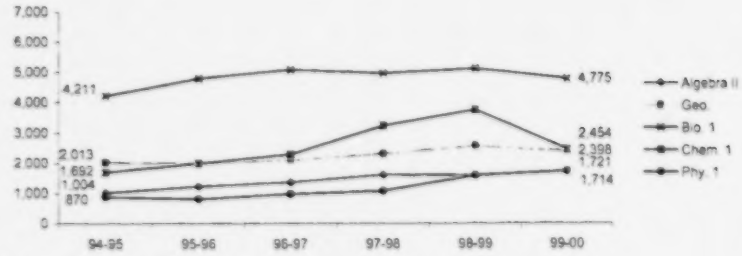
G 9-12 Course Enrollment (All Students)

	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
94-95	1,174	2,336	256	3,766	5,103	1,907	930	7,940
95-96	1,510	2,524	237	4,271	5,958	2,267	850	9,075
96-97	1,675	2,768	231	4,674	6,777	2,764	1,013	10,554
97-98	1,864	2,953	216	5,033	6,517	3,973	1,141	11,631
98-99	1,953	3,128	189	5,270	6,533	4,612	1,694	12,839
99-00	1,799	2,518	871	5,188	5,615	2,825	1,896	10,336



G 9-12 Course Completion *1 (All Students)

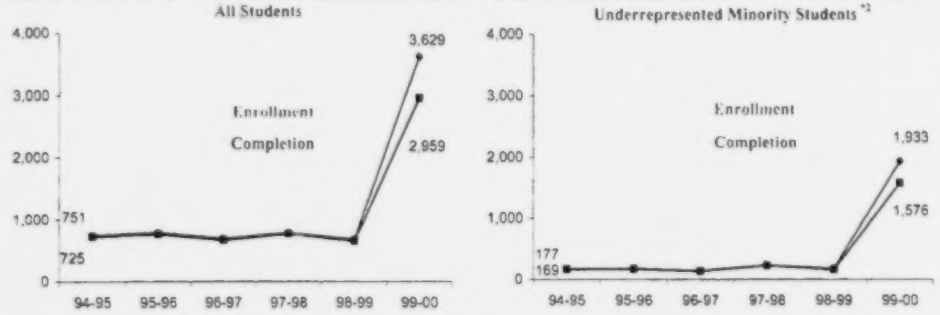
	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
94-95	1,004	2,013	254	3,271	4,211	1,692	870	6,773
95-96	1,215	2,000	233	3,448	4,794	1,992	804	7,590
96-97	1,360	2,112	226	3,698	5,080	2,301	968	8,349
97-98	1,606	2,324	209	4,139	4,962	3,236	1,075	9,273
98-99	1,593	2,567	186	4,346	5,116	3,749	1,581	10,446
99-00	1,714	2,398	864	4,976	4,775	2,454	1,721	8,950



*3 Calculus not represented on graph.

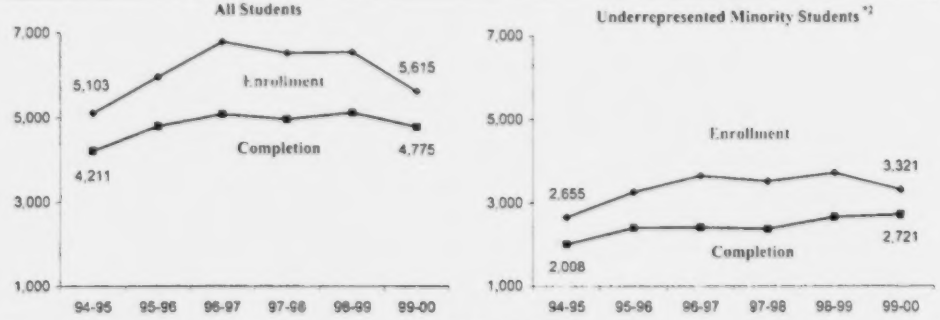
Algebra I or Above in 8th Grade Enrollment & Completion Trends/ All vs. URM

		94-95	95-96	96-97	97-98	98-99	99-00
Total G 8 Population		5,773	5,813	5,598	5,670	5,733	5,728
All Students	Enrollment	751	794	702	792	687	3,629
	Completion *1	725	765	675	775	655	2,959
	% Enroll/ G8	13%	14%	13%	14%	12%	63%
URM *2	Enrollment	177	177	147	228	179	1,933
	Completion *1	169	171	139	225	162	1,576
	% Enroll/ G8	6%	6%	5%	7%	6%	59%



Biology Enrollment & Completion Trends/ All vs. URM

		94-95	95-96	96-97	97-98	98-99	99-00
All Students	Enrollment	5,103	5,958	6,777	6,517	6,533	5,615
	Completion *1	4,211	4,794	5,080	4,962	5,116	4,775
URM *2	Enrollment	2,655	3,260	3,657	3,516	3,723	3,321
	Completion *1	2,008	2,399	2,413	2,373	2,664	2,721



*1 Successful completion: grade 'D' or above. (.) Data Missing

*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Professional Development Participation of Teachers Teaching Mathematics and/or Science

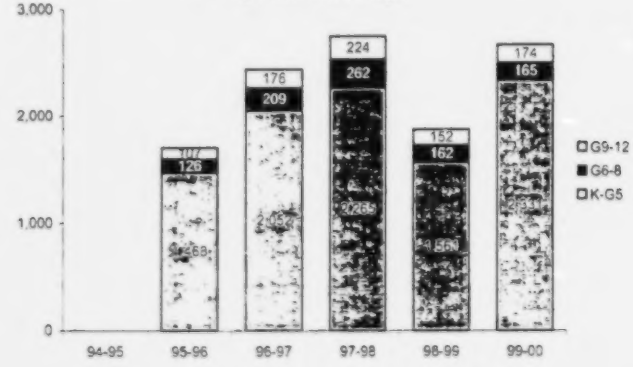
Total Number Teachers by Subject (G6-12)

	94-95	95-96	96-97	97-98	98-99	99-00
Mathematics	.	171	199	304	322	333
Science	.	159	198	246	254	270

Total Number of Teachers Participating in PD by Grade Level

Teachers	94-95	95-96	96-97	97-98	98-99	99-00
Total K-G5	1,997	2,239	2,398	2,301	2,308	2,331
# K-G5 Participated	.	1,468	2,052	2,265	1,561	2,331
% K-G5 Participated	.	66%	86%	98%	68%	100%
Total G6-8	.	151	209	282	314	319
# G6-8 Participated	.	126	209	262	162	165
% G6-8 Participated	.	83%	100%	93%	52%	52%
Total G9-12	.	179	188	268	262	284
# G9-12 Participated	.	107	176	224	152	174
% G9-12 Participated	.	60%	94%	84%	58%	61%

Number of Teachers Participating in Professional Development by Grade Level Taught



Number of Teachers by Duration of Professional Development

	94-95	95-96	96-97	97-98	98-99	99-00
1-59 Hours	.	1,388	2,076	2,416	1,835	2,670
60-119 Hours	.	245	323	295	39	0
120-200 Hours	.	68	38	40	1	0
More than 200 Hours	.	0	0	0	0	0

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District Assessment Test Administered

♦ Mathematics

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	ITAS	ITAS	TerraNova	SAT/9	SAT/9	SAT/9
Scoring	PC	PC	PC	PC	PC	PC
Grade	G1-12	G1-12	G1-12	G1-11	G2-11	G2-11
Type	NRT	NRT	NRT	NRT	NRT	NRT

♦ Science

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name			TerraNova	SAT/9	SAT/9	SAT/9
Scoring			PC	PC	PC	PC
Grade			3,6,8-12	3,6,8-12	3,6,8-12	3,6,8-12
Type			NRT	NRT	NRT	NRT

State Assessment Test Administered

♦ Mathematics

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	GSE	GSE	GSE	GSE	GSE	GSE
Scoring	PL	PL	PL	PL	PL	PL
Grade	G8-12	G8-12	G8-12	G8-12	G8-12	G8-12
Type	Other	Other	Other	Other	Other	Other

♦ Science

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	GSE	GSE	GSE	GSE	GSE	GSE
Scoring	PL	PL	PL	PL	PL	PL
Grade	G8-12	G8-12	G8-12	G8-12	G8-12	G8-12
Type	Other	Other	Other	Other	Other	Other

* ITAS: Individual Test of Academic Skills *SAT/9: Stanford Achievement Test - 9th Edition

*GSE: Golden State Exam

PC: Percentile SN: Stanine PL: Performance Level

PF: Pass/Fail SS: Scaled Score OT: Other

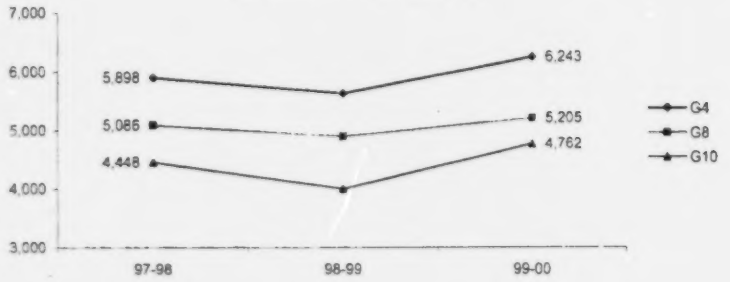
NRT: Norm-Referenced Test CRT: Criterion-Referenced Test

District Assessment Test-Taker Trends SAT/9

♦ Mathematics

# of Test-takers	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4				5,898	5,629	6,243
Grade 8				5,086	4,894	5,205
Grade 10				4,448	3,996	4,762

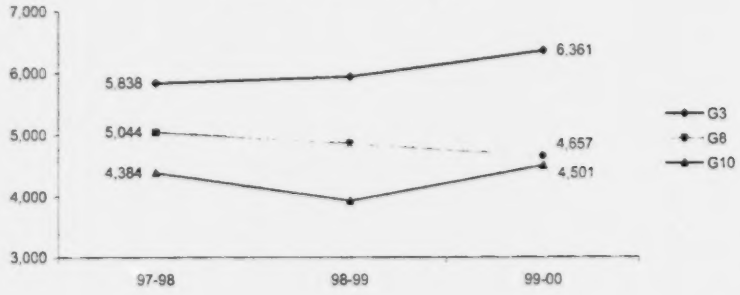
Total number of students taking test



♦ Science

# of Test-takers	94-95	95-96	96-97	97-98	98-99	99-00
Grade 3				5,838	5,941	6,361
Grade 8				5,044	4,865	4,657
Grade 10				4,384	3,932	4,501

Total number of students taking test



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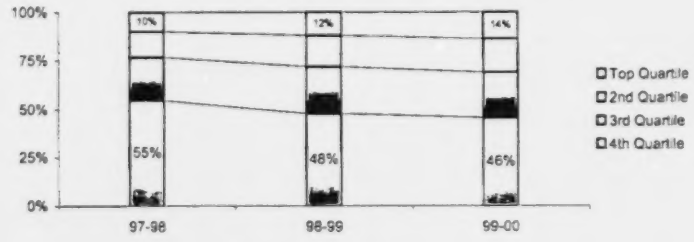
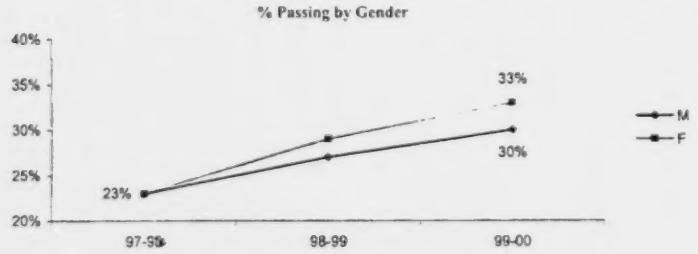
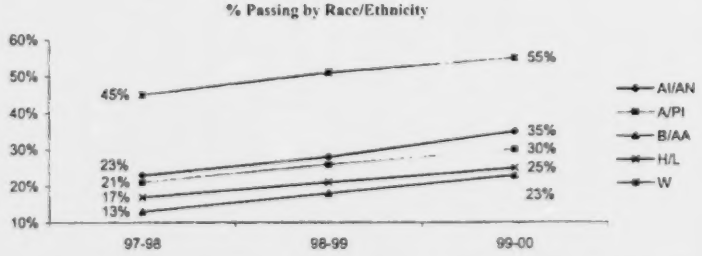
District Assessment Test Result Trends SAT/9 - Mathematics

♦ **Grade 4**

Quartiles	94-95	95-96	96-97	97-98	98-99	99-00
Top Quartile				10%	12%	14%
2nd Quartile				13%	16%	17%
3rd Quartile				22%	24%	23%
4th Quartile				55%	48%	46%
Total num of students				5,898	5,629	6,243



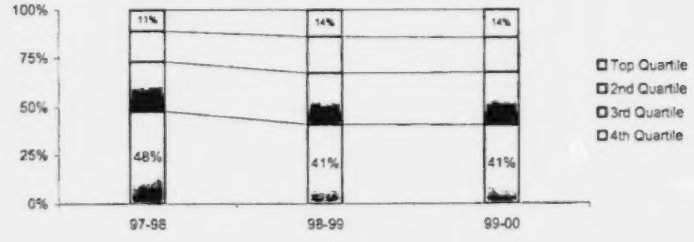


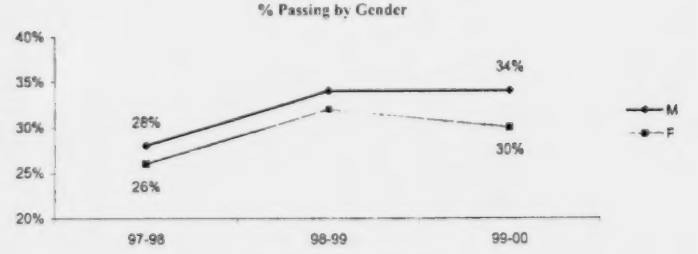


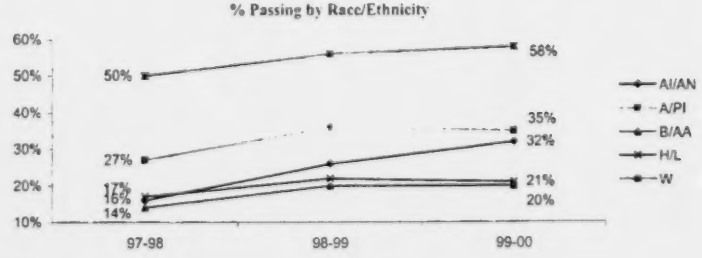
District Assessment Test Result Trends SAT/9 - Mathematics

♦ **Grade 8**

Quartiles	94-95	95-96	96-97	97-98	98-99	99-00
Top Quartile				11%	14%	14%
2nd Quartile				16%	19%	18%
3rd Quartile				25%	26%	27%
4th Quartile				48%	41%	41%
Total num of students				5,086	4,894	5,205







AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as Top Quartile + 2nd Quartile

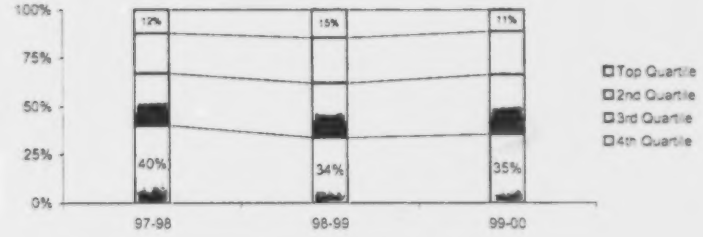
[1] "Other" Category Not Included in Presented Data

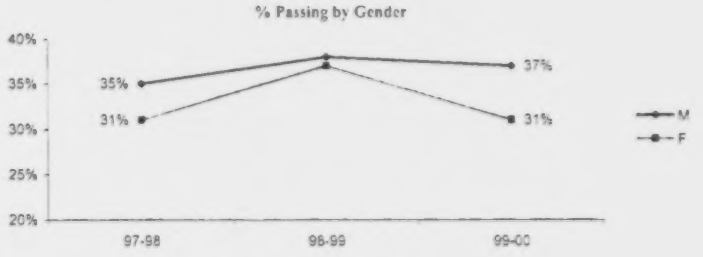
Fresno USI

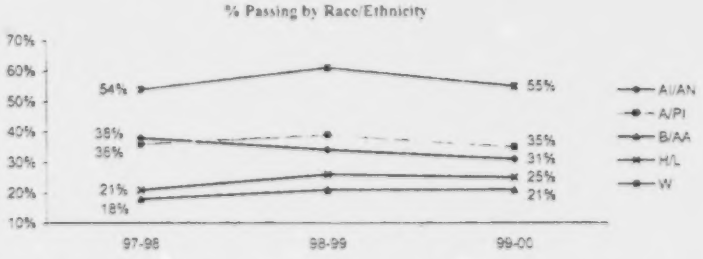
District Assessment Test Result Trends SAT/9 - Mathematics

- **Grade 10**

Quartiles	94-95	95-96	96-97	97-98	98-99	99-00
Top Quartile				12%	15%	11%
2nd Quartile				20%	23%	22%
3rd Quartile				27%	29%	31%
4th Quartile				40%	34%	35%
Total num of students				4,448	3,996	4,762



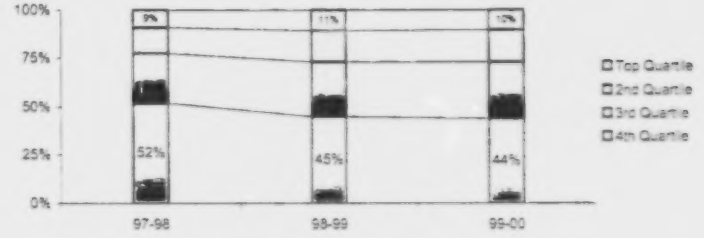


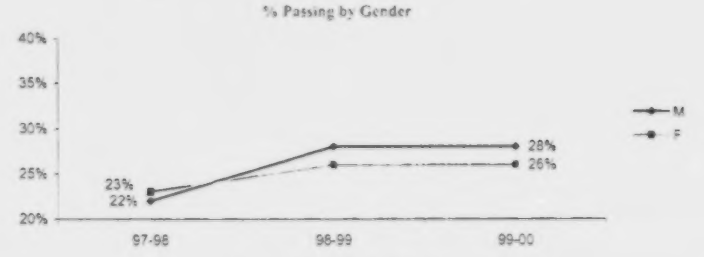


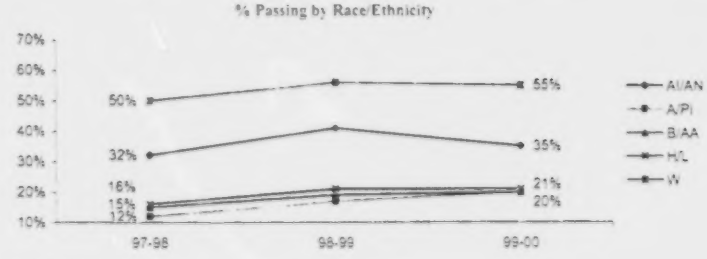
District Assessment Test Result Trends SAT/9 - Science

- **Grade 3**

Quartiles	94-95	95-96	96-97	97-98	98-99	99-00
Top Quartile				9%	11%	10%
2nd Quartile				14%	16%	17%
3rd Quartile				26%	28%	29%
4th Quartile				52%	45%	44%
Total num of students				5,838	5,941	6,361







AI/AN: American Indian/Alaskan Native. A/PI: Asian/Pacific Islander. B/AA: Black or African American. H/L: Hispanic or Latino. W: White.

% Passing defined as Top Quartile + 2nd Quartile

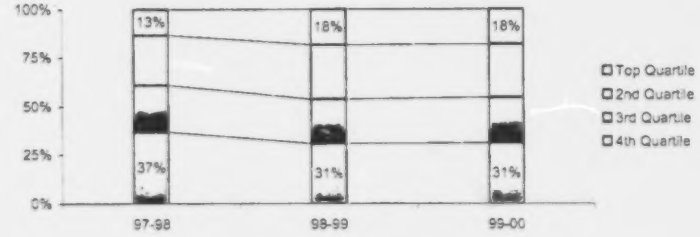
"Other" Category Not Included in Presented Data

Fresno USI

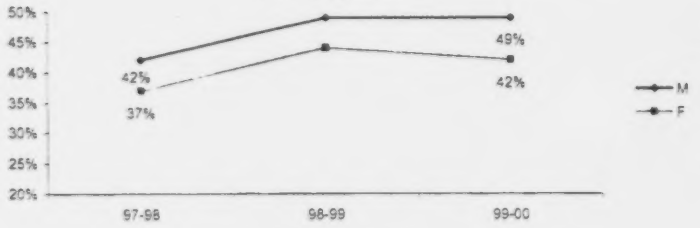
District Assessment Test Result Trends SAT/9 - Science

♦ **Grade 8**

Quartiles	94-95	95-96	96-97	97-98	98-99	99-00
Top Quartile				13%	18%	18%
2nd Quartile				26%	28%	27%
3rd Quartile				24%	23%	24%
4th Quartile				37%	31%	31%
Total num of students				5,044	4,865	4,657



% Passing by Gender

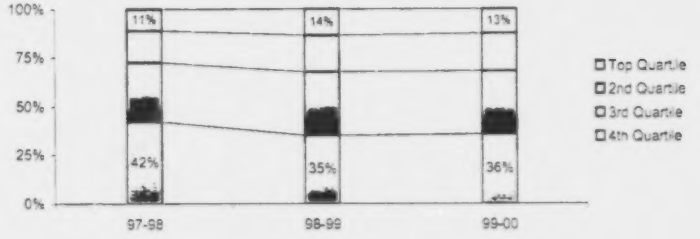


% Passing by Race/Ethnicity

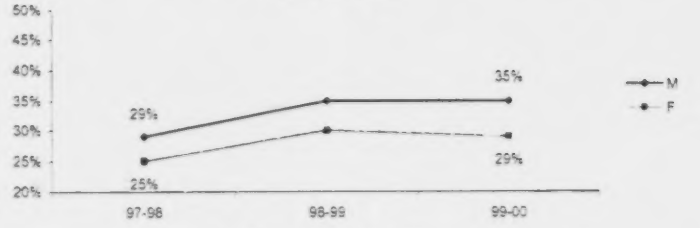
District Assessment Test Result Trends SAT/9 - Science

♦ **Grade 10**

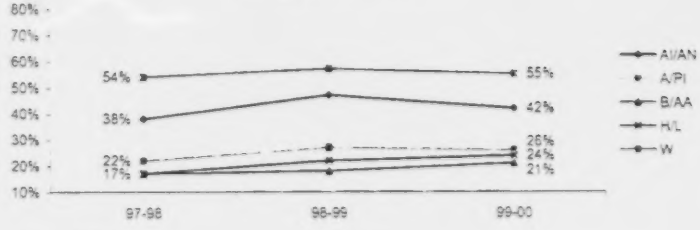
Quartiles	94-95	95-96	96-97	97-98	98-99	99-00
Top Quartile				11%	14%	13%
2nd Quartile				16%	19%	19%
3rd Quartile				30%	32%	32%
4th Quartile				42%	35%	36%
Total num of students				4,384	3,932	4,501



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as Top Quartile + 2nd Quartile

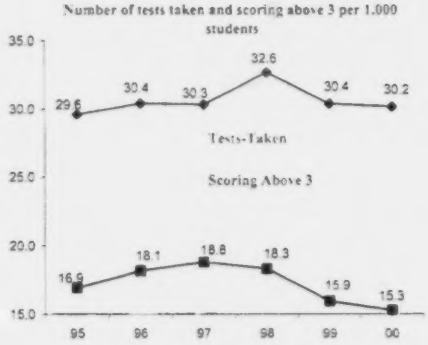
** "Other" Category Not Included in Presented Data

Fresno USI

AP Mathematics Test Result Trends • **AP Mathematics (Calculus AB, Calculus BC, & Statistics)**

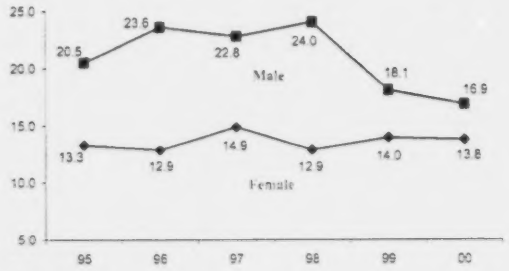
• AP Mathematics - Total Number of Tests Taken

		95	96	97	98	99	00
Total Num of 11th & 12th		7,164	7,170	7,518	7,661	7,342	7,791
Tests Taken	Calc. AB	180	197	182	204	163	173
	Calc. BC	32	21	31	19	15	24
	Statistics	0	0	15	27	45	38
	Total	**212**	**218**	**228**	**250**	**223**	**235**
Num of tests-taken/1,000 stu.		29.6	30.4	30.3	32.6	30.4	30.2
Scoring Above 3		121	130	141	140	117	119
Num of Above 3/ 1,000 students		16.9	18.1	18.8	18.3	15.9	15.3



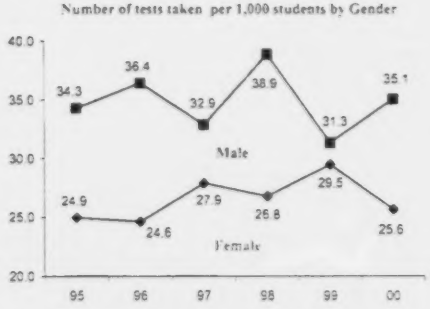
• AP Mathematics - Number of Students Scoring Above 3 By Gender per 1,000 Students

		95	96	97	98	99	00
Score Above 3 per 1,000	Male	20.5	23.6	22.8	24.0	18.1	16.9
	Female	13.3	12.9	14.9	12.9	14.0	13.8



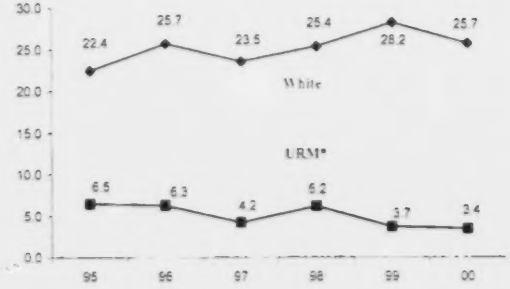
• AP Mathematics - Number of Tests Taken By Gender Per 1,000 Students

		95	96	97	98	99	00
Tests Taken per 1,000	Male	34.3	36.4	32.9	38.9	31.3	35.1
	Female	24.9	24.6	27.9	26.8	29.5	25.6



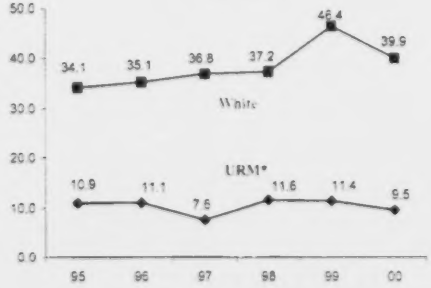
• AP Mathematics - Number of Students Scoring Above 3 By Race/Ethnicity Per 1,000 Students[*]

	95	96	97	98	99	00
AI/AN	96.2	87.7	26.7	0.0	0.0	17.9
A/PI	25.5	22.8	26.4	22.4	20.6	18.4
B/AA	5.5	2.8	0.0	0.0	1.3	3.8
H/L	5.0	5.4	4.8	8.1	4.5	3.1
W	22.4	25.7	23.5	25.4	28.2	25.7



• AP Mathematics - Number of Tests Taken By Race/Ethnicity Per 1,000 Students[*]

	95	96	97	98	99	00
AI/AN	96.2	87.7	26.7	0.0	0.0	17.9
A/PI	50.2	54.2	48.6	49.5	37.8	44.5
B/AA	13.8	7.0	5.1	6.0	8.8	10.2
H/L	8.4	10.5	7.8	13.4	12.4	9.2
W	34.1	35.1	36.8	37.2	46.4	39.9



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White

[*] "Other" category not presented

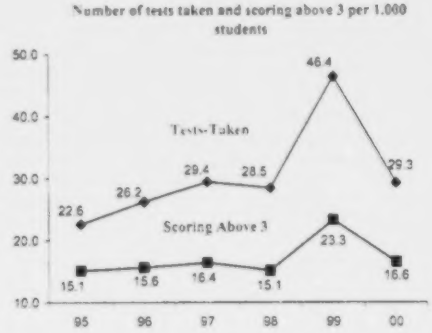
*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

Fresno USI

AP Science Test Result Trends ♦ **AP Science (Biology, Chemistry, Environ. Sci., Phy. B, Phy. C Mech., & Phy. C Elec.**

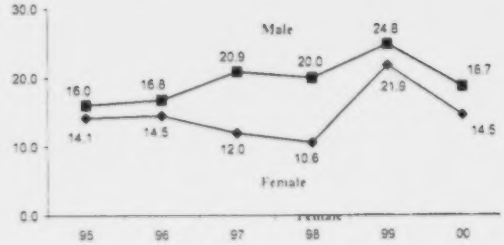
♦ **AP Science - Total Number of Tests Taken**

		95	96	97	98	99	00
Tests Taken	Total Num of 11th & 12th	7,164	7,170	7,518	7,661	7,342	7,791
	Biology	118	115	150	124	228	118
	Chem.	19	43	38	43	33	44
	Enviro. Sci.	0	0	0	27	59	48
	Physics B	15	17	29	22	14	13
	Ph. C Mech.	5	11	2	1	4	4
	Ph. C Elec.	5	2	2	1	3	1
	Total	**162**	**188**	**221**	**218**	**341**	**228**
Num of tests-taken/1,000 stu.		22.6	26.2	29.4	28.5	46.4	29.3
Scoring Above 3		108	112	123	116	171	129
Num of Above 3/ 1,000 students		15.1	15.6	16.4	15.1	23.3	16.6



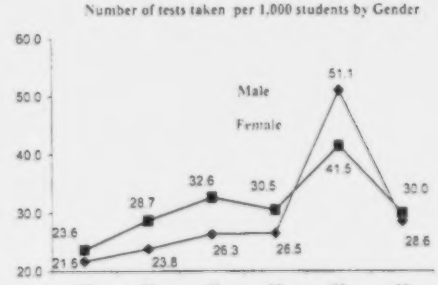
♦ **AP Science - Number of Students Scoring Above 3 By Gender per 1,000 Students**

Score Above 3 per 1,000	95	96	97	98	99	00
Male	16.0	16.8	20.9	20.0	24.8	16.7
Female	14.1	14.5	12.0	10.6	21.9	14.5



♦ **AP Science - Number of Tests Taken By Gender Per 1,000 Students**

Tests Taken per 1,000	95	96	97	98	99	00
Male	23.6	28.7	32.6	30.5	41.5	30.0
Female	21.6	23.8	26.3	26.5	51.1	28.6

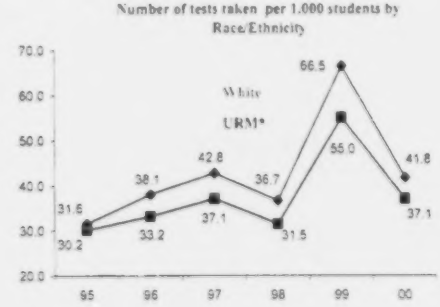


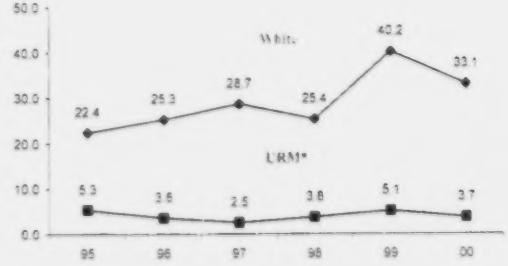
♦ **AP Science - Number of Students Scoring Above 3 By Race/Ethnicity Per 1,000 Students**[*1]

	95	96	97	98	99	00
AI/AN	115.4	17.5	26.7	0.0	0.0	17.9
A/PI	16.0	16.7	16.6	16.1	20.1	16.3
B/AA	4.1	2.8	0.0	1.2	2.5	2.5
H/L	3.5	3.5	2.6	4.6	6.0	3.8
W	22.4	25.3	28.7	25.4	40.2	33.1

♦ **AP Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students**[*1]

	95	96	97	98	99	00
AI/AN	134.6	17.5	26.7	0.0	60.0	35.7
A/PI	25.5	33.5	35.1	39.7	49.9	36.4
B/AA	111.9	127.3	130.2	98.9	183.0	124.7
H/L	5.4	7.4	10.0	12.4	16.5	13.7
W	31.6	38.1	42.8	36.7	66.5	41.8





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[*1] "Other" category not presented

*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

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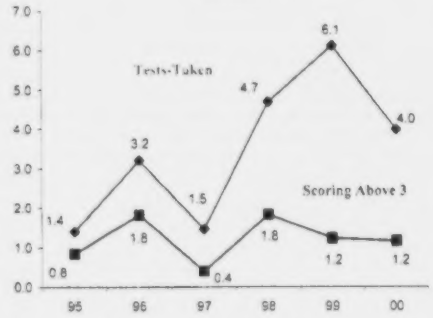
AP Computer Science Test Result Trends

♦ AP Computer Science (Computer Science A & AB)

♦ AP Computer Science - Total Number of Tests Taken

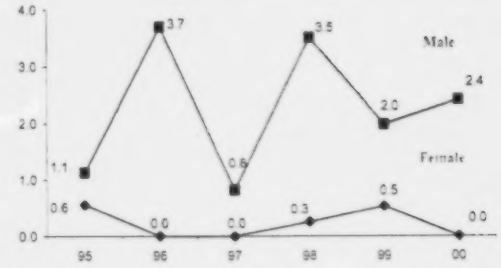
		95	96	97	98	99	00
	Total Num of 11th & 12th students	7,164	7,170	7,518	7,661	7,342	7,791
Tests Taken	Comp. Sci A	3	13	7	24	12	25
	Comp. Sci. AB	7	10	4	12	33	6
	Total	**10**	**23**	**11**	**36**	**45**	**31**
	Num of tests-taken/1,000 stu.	1.4	3.2	1.5	4.7	6.1	4.0
	Scoring Above 3	6	13	3	14	9	9
	Num of Above 3/ 1,000 students	0.8	1.8	0.4	1.8	1.2	1.2

Number of tests taken and scoring above 3 per 1,000 students



♦ AP Computer Science - Number of Students Scoring Above 3 By Gender per 1,000 Students

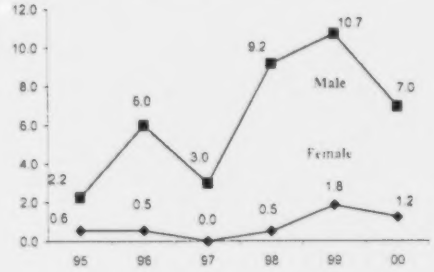
		95	96	97	98	99	00
Score Above 3 per 1,000	Male	1.1	3.7	0.6	3.5	2.0	2.4
	Female	0.6	0.0	0.0	0.3	0.5	0.0



♦ AP Computer Science - Number of Tests Taken By Gender Per 1,000 Students

		95	96	97	98	99	00
Tests Taken per 1,000	Male	2.2	6.0	3.0	9.2	10.7	7.0
	Female	0.6	0.5	0.0	0.5	1.8	1.2

Number of tests taken per 1,000 students by Gender



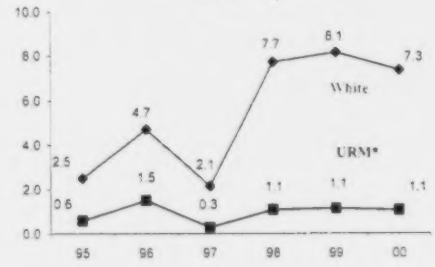
♦ AP Computer Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students[*1]

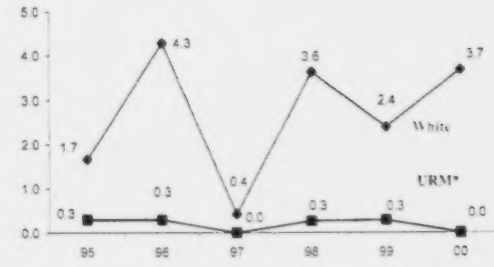
	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0	0.0
A/PI	0.7	0.0	1.2	1.7	0.0	0.5
B/AA	0.0	0.0	0.0	0.0	0.0	0.0
H/L	0.4	0.4	0.0	0.4	0.4	0.0
W	1.7	4.3	0.4	3.6	2.4	3.7

♦ AP Computer Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students[*1]

	95	96	97	98	99	00
AI/AN	0.0	17.5	0.0	0.0	20.0	0.0
A/PI	1.5	1.3	2.5	6.3	11.5	6.0
B/AA	0.0	1.4	0.0	0.0	1.3	1.3
H/L	0.8	1.2	0.4	1.4	0.8	1.0
W	2.5	4.7	2.1	7.7	8.1	7.3

Number of tests taken per 1,000 students by Race/Ethnicity





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[*1] "Other" category not presented

*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

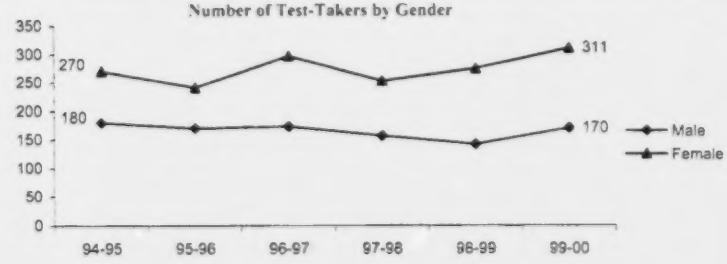
Fresno USI

ACT Test-Takers

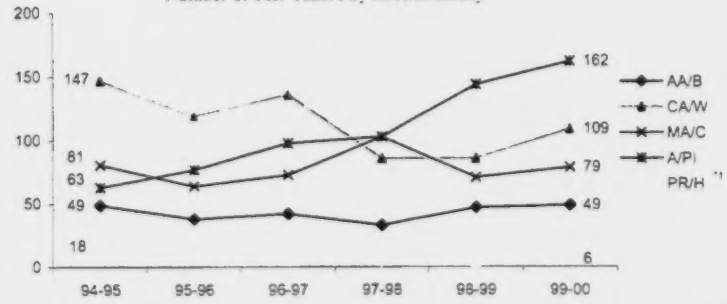
♦ **Number of Test-Takers**

		94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		3,213	3,078	3,187	3,247	3,100	3,474
Test-Takers		450	411	470	410	418	483
Num of Test-Takers/1,000 Stu		140	134	147	126	135	139
Gender	Male	180	170	173	157	142	170
	Female	270	241	297	253	275	311
Race/Ethnicity	AA/B	49	38	42	33	47	49
	AI/AN *1	4	4	8	2	3	2
	CA/W	147	119	136	86	86	109
	MA/C	81	64	73	103	71	79
	A/PI	63	77	98	103	144	162
	PR/H *1	18	12	15	4	2	6

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity

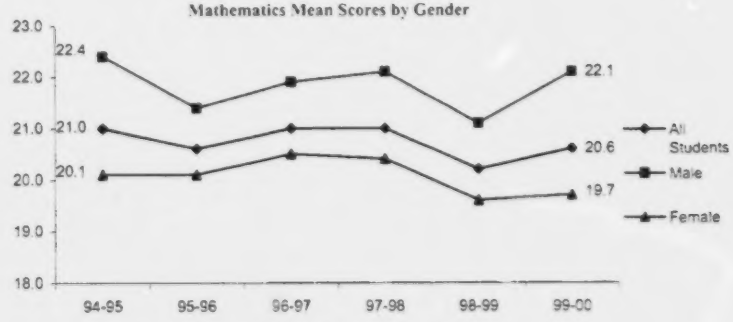


ACT Mathematics Scores

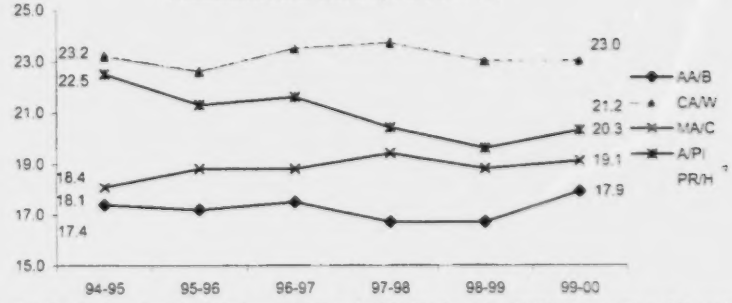
♦ **Mathematics - Mean Score Trends**

		94-95	95-96	96-97	97-98	98-99	99-00
All Students		21.0	20.6	21.0	21.0	20.2	20.6
Gender	Male	22.4	21.4	21.9	22.1	21.1	22.1
	Female	20.1	20.1	20.5	20.4	19.6	19.7
Race/Ethnicity	AA/B	17.4	17.2	17.5	16.7	16.7	17.9
	AI/AN *2	-	-	22.0	-	-	-
	CA/W	23.2	22.6	23.5	23.7	23.0	23.0
	MA/C	18.1	18.8	18.8	19.4	18.8	19.1
	A/PI	22.5	21.3	21.6	20.4	19.6	20.3
	PR/H *2	18.4	19.9	20.9	-	-	21.2

Mathematics Mean Scores by Gender



Mathematics Mean Scores by Race/Ethnicity



AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.

*1 Number of Test-Takers less than 5 not presented in graph

*2 Mean scores not presented for sample size less than 5

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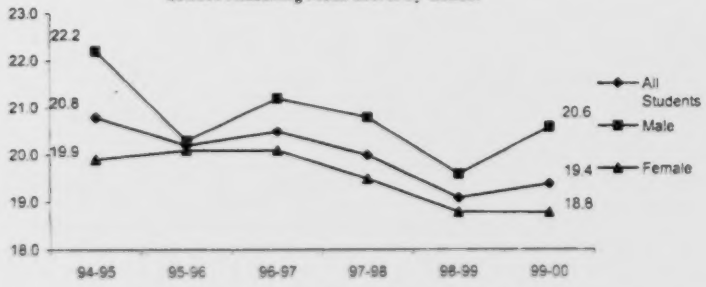
ACT Science Reasoning Scores

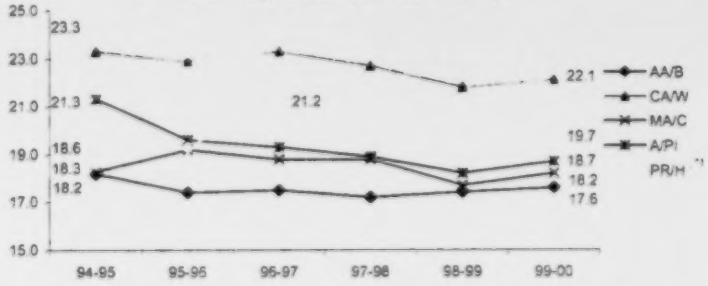
♦ **Science Reasoning - Mean Score Trends**

		94-95	95-96	96-97	97-98	98-99	99-00
All Students		20.8	20.2	20.5	20.0	19.1	19.4
Gender	Male	22.2	20.3	21.2	20.8	19.6	20.6
	Female	19.9	20.1	20.1	19.5	18.8	18.8
Race/Ethnicity	AA/B	18.2	17.4	17.5	17.2	17.4	17.6
	AI/AN [*1]	-	-	22.8	-	-	-
	CA/W	23.3	22.9	23.3	22.7	21.8	22.1
	MA/C	18.3	19.2	18.8	18.8	17.7	18.2
	A/PI	21.3	19.6	19.3	18.9	18.2	18.7
	PR/H [*1]	18.6	19.3	21.2	-	-	19.7

Science Reasoning Mean Scores by Gender



Science Reasoning Mean Scores by Race/Ethnicity



AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.

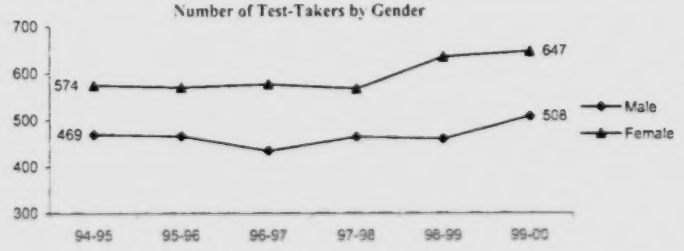
[*1] Mean scores not presented for sample size less than 5

SAT Test-Takers

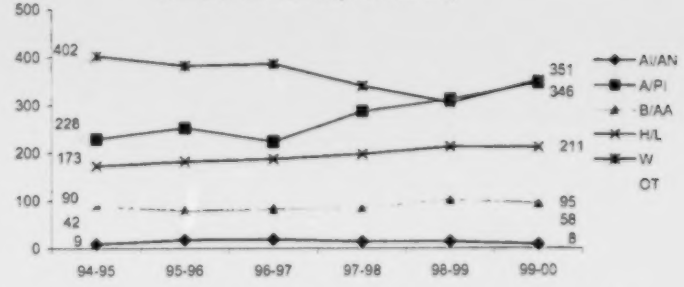
♦ **Number of Test-Takers**

		94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		3,213	3,078	3,187	3,247	3,100	3,474
Test-Takers		1,043	1,036	1,012	1,031	1,096	1,155
Num of Test-Takers/1,000 Stu.		325	337	318	318	354	332
Gender	Male	469	466	435	464	460	508
	Female	574	570	577	567	636	647
Race/Ethnicity	AI/AN	9	18	19	14	14	8
	A/PI	228	252	223	287	312	346
	B/AA	90	79	83	86	103	95
	H/L	173	182	187	197	212	211
	W	402	382	386	340	305	351
	OT	42	62	57	54	63	58

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity



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SAT Mathematics Scores

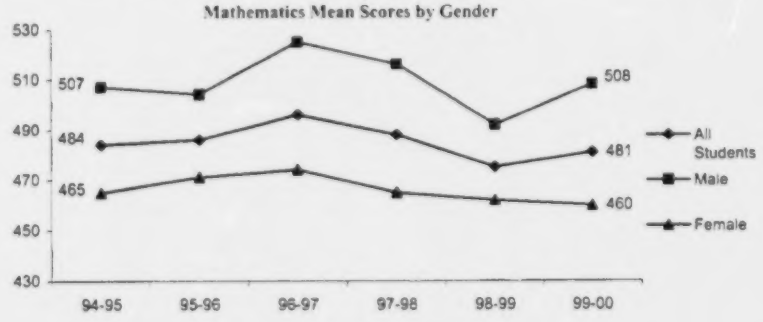
♦ **Mathematics - Mean Score Trends**

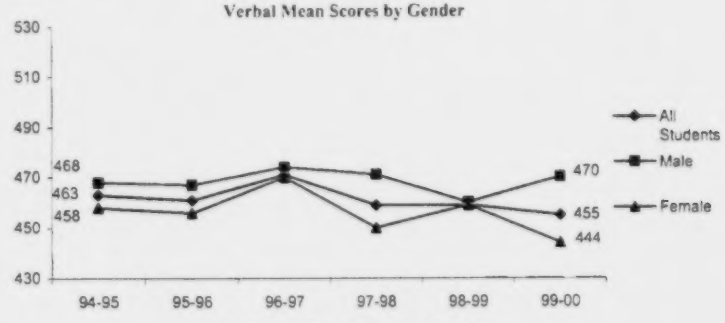
		94-95	95-96	96-97	97-98	98-99	99-00
All Students		484	486	496	488	475	481
Gender	Male	507	504	525	516	492	508
	Female	465	471	474	465	462	460
Race/Ethnicity	AI/AN	474	494	513	448	459	431
	A/PI	466	466	478	466	445	448
	B/AA	425	431	414	406	397	415
	H/L	455	468	459	467	458	463
	W	524	520	534	536	539	537
	OT	528	489	540	543	505	488

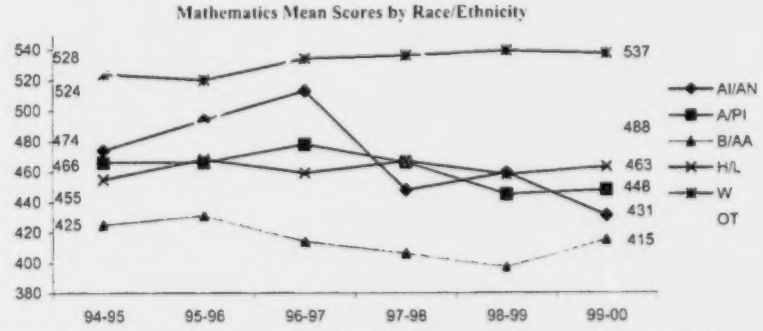
SAT Verbal Scores

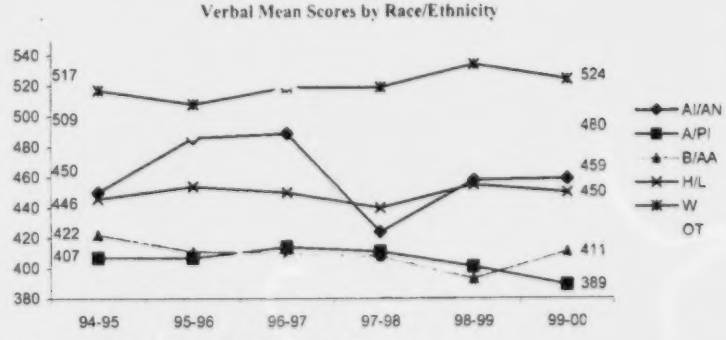
♦ **Verbal - Mean Score Trends**

		94-95	95-96	96-97	97-98	98-99
All Students		463	461	471	459	459
Gender	Male	468	467	474	471	460
	Female	458	456	470	450	459
Race/Ethnicity	AI/AN	450	486	489	424	458
	A/PI	407	407	414	411	401
	B/AA	422	411	410	408	393
	H/L	446	454	450	440	455
	W	517	508	519	519	534
	OT	509	488	521	497	505









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Fresno USI

Cohort/Scale-Up Approach

	95-96	96-97	97-98	98-99	99-00
Number of District Schools*:	*94*	*94*	*94*	94	106
USI Schools**:	64	81	85	85	86
% Schools:	68%	86%	90%	90%	81%

*Core Data Elements 2000-2001; ** K-1 2001

Italics: Data Imputed

Primary Decision Making Body

Standards Curriculum	State
Curriculum/Textbook Adoption	State
Student Assessment	State
Professional Development	School
Resources	State
Teacher Hiring	District
Teacher Contracts	District
Certification & Re-certification	State
Graduation Requirements	State
School-Based Management?	Yes

Policies Promoting Equal Access by All Students in High Quality Education

Student Tracking:
- The board-adopted policies eliminating remedial courses and increasing graduation requirements have severely inhibited any tracking practices

Criteria for Entry into High Level Mathematics and Science Courses:
- Criteria vary, dependent on school counselors and mathematics and science departments at each school
- Generally prerequisite completed with C or better and /or teacher permission

Availability of High Level Courses:
- High level courses are available dependent on student demand
- AP Probability and Statistics

Special Education and Bilingual Students:
- All students except Special-Day-Class are required to meet graduation requirements

Policies Impacting the Enrollment of Students in Challenging Math and Science Courses

Attendance :
- Attendance policy has required that students with 7 unexcused absences not receive credit for any course

Guidance:
- Guidance has evolved to focus on examining resources for success, since all students must meet more rigorous requirements

Student Support Systems:
- USI-sponsored support systems at most schools include family nights, tutorials, enrichment clubs and resource "cluster teachers"
- Saturday academies
- At year round elementary schools, intersession academies

Policies Relevant to Curriculum

Framework:
- California content standards in Mathematics and Science

Curricula:

Curricula Materials:
- Mathland
- Investigating Mathematics
- Full Option Science System (FOSS)
- Glencoe Algebra Through Trigonometry
- Science Education for Public Understanding (SEPUP)

New Courses Added as a Result of USI:
- Professional Development supported by USI to prepare teachers to teach
- Science 9, 10, 11
- AP Probability and Statistics
- Interactive Mathematics Program

Instructional Time:
- No specific policies exist

Standards-based Curriculum and Instruction

Standards Adopted:
- California Content Standards in Mathematics and Science
- National Research Council (NRC) standards

Primary Instructional Strategies:
- Mathematics: Investigative/Lecture/ Demonstration balanced between skill and project-based
- Science: Project-based, focused, spiraling curriculum

% of Students Experiencing Standards-based Mathematics Curriculums:	E: 66%
	M: 83%
	H: 100%
% of Students Experiencing Standards-based Science Curriculums:	E: 47%
	M: 92%
	H: 100%

Policies Relevant to Teacher Qualifications

Certification:
- District policy requires a fifth year credential program at an accredited university. Renewal requires 150 hours of professional development every five years

Requirement & Hiring Practices
- Interns in mathematics and science are hired as teachers if they have specialized in mathematics/science at the university

Professional Advancement & Leadership Training:
- While no official district policy exists, several hundred lead teachers have been trained over the 4 years of the initiative. Several teacher leaders have moved into key administrative positions

Contract Requirements:
- Teacher contracts are negotiated between the Division of Human Resources and the Fresno Teachers Association

E: Elementary School M: Middle School H: High School

Fresno USI

Professional Development Policies and Practices

Time Required or Supported:	• 21, none specified for science or math
Financial Resources Provided:	
Alignment to Student Standards:	• Using the standards as a guideline for teaching has become an institutionalized part of the Fresno USD system
Measurement of Impact:	• An assessment system with accountability measures has been established, with national norms, measuring progress in normative and criterion referenced environments
Type and Amount Received by Average Math/Science Teacher:	• 5 to 10 hours • Focused on the implementation of standards-based curriculum
Evaluation Instruments:	• Stanford Achievement Test-9 • Academic grades • California Systemic Initiative Assessment Collaborative (CSIAC) • Science Embedded Assessment • Performance Based Assessment of Mathematics
Professional Development Alignment to Content Standards Measures:	• Professional Development is designed and facilitated by Fresno Unified Curriculum Coordinators, who oversee the design and development of standards and curriculum
Teacher's Instructional Practices Evaluation:	• 120+ hours classroom observations each year by trained USI evaluators • Yearly site-administrator evaluations
Impact on Student Achievement:	• Comparison of hours of professional development by the teacher with student achievement indicates a positive relationship between these variables

Policies Relevant to Standards-based Assessments

Extent to Which Assessments are Aligned to District Standards and Curriculums:	• Somewhat state assessments vary in alignment
Methods stakeholders are informed of goals, objectives and accomplishments of assessment program:	• State report cars on web, distributed to parents • USI publications describe progress made throughout the project

USI Leadership, Governance, and Management

Superintendent:	• Superintendent as of 2000-01: Dr. Santiago V. Wood
USI Office:	• Project Director 1995-96: Georgina Takemoto • Project Director 1996-97 to 1997-98: Dr. Robert Grobe • Project Director as of 1998-99: Ms. Sandra Carsten • USI Administrator as of 1997-98: Ms. Carole Sarkisian-Bonard, Asst. Superintendent
Community Key Personnel:	• Dr. David Andrews (California State University at Fresno) • Dr. Joe Castro (California University) • Mary Lee Levy (parent) • Nida Palmore (parent) • Gary Sells (SDRC) • Kelsey Stewart (parent) • Dr. Susan Speece (FCC) • Dr. Richard Thiessen (FPU) • Dr. Stan Ziegler (California State University at Fresno)
Teacher Leaders:	• Lead Teachers

Partnerships

Other Key Initiatives:	• NSF Local Systemic Change • NSF Fresno K-12 Higher Education Partnership • Central Valley Science Project • Fresno Collaborative for Excellence in Preparation of Teachers • Science Mathematics Preservice Partnership
Community Stakeholders:	• Fresno Business Compact
Higher Education:	• California State University at Fresno • Fresno Pacific University • University of California
Business and Industry:	• Texas Instruments
Other Partnerships:	• Fresno Parks and Recreation • San Joaquin River Parkway • Discovery Center • Chaffee Zoo

Fresno USI

Policy Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	•Textbooks were adopted once each 7 years •Graduation requirements consisted of two years each mathematics and science •No special resources were used to support mathematics and science other than Eisenhower funds
1995-96	•No changes reported
1996-97	•Remedial, non college-preparatory courses which allowed student tracking were eliminated from the district list of course offerings •Tutoring programs/Saturday Academies in most schools •Student support mini-grants were granted to most schools in order to provide enrichment experiences for students in mathematics and science •Intersession academies at some elementary schools
1997-98	•Increased graduation requirements: 3 years of mathematics, including Algebra and Geometry, and three years of science for class of 2001 •Algebra I courses were split into a two-semester sequence, allowing unsuccessful students to re-take the 1st semester in the spring
1998-99	•School accountability goals were established for all Fresno USD schools. Each school wrote measurable goals for improving student achievement, aligned with the California accountability system
2000-01	•Summer school make-up courses

Curriculum and Instruction Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	•The mathematics and science curricula were outdated, having been last adopted in the mid-1980's •No efforts to examine the quality of mathematics/science instruction were conducted, other than the general state-mandated annual visits of site administrators to classrooms •Elementary science instruction occurred only sporadically in isolated classrooms •Full Option Science System (FOSS) adopted in 1994-95.
1995-96	•The District adopted the Mathland curriculum (K-G6) Investigating Mathematics curriculum (G7-8)
1996-97	•The Science Resource Center became fully operational. Housing over 1,000 science units, the SRC checks out units to teachers at sites in 6 week blocks, then refurbishes returned units
1997-98	•New high school Algebra-Geometry-Algebra II curricula was adopted from Glencoe publications
1998-99	•The SEPUP curriculum was implemented by teachers district-wide at G7-9

Professional Developrnent Policy and Program Changes to Support Teachers During USI Implementation

School Year	Policy Implemented
Before USI	•Professional development provided by the district was sporadic •A mathematics coordinator and a science coordinator provided occasional optional professional development sessions for teachers during each year •Most teachers received little or no professional development during the year •No sequence or scope for professional development had been established •Some professional development occurred for 31 elementary schools in science during the 1994-95 year
1995-96	•5 school-based coordinated professional development days devoted to mathematics and science •Full Option Science System (FOSS) professional development •44 schools participated in mandated science professional development for each teacher (minimum of 30 hours), and 33 schools participated in mandatory mathematics professional development (minimum of 30 hours) •Year 1 training for mathematics in 33 schools consisted of a systematic look at the national standards for K-G6, participation in the California State SI for G7-8, and various curricular trainings and technology workshops for G9-12

	•Year 1 training for science included a focused look at national benchmarks and curricular implementation at K-G6, and curriculum writing and piloting for integrated courses in G7-12 •Minimum of 5 days of professional development for teachers at each participating school mandated
1996-97	•The 33 mathematics schools participated in Year 2 training. Mathematics K-6 training focused in more depth on standards, and strategies for working with students •The 44 science schools chose a different content area (from life, earth, and physical science) in the same format as mathematics •New schools entered into Year 1 training (35 in mathematics and 18 in science).
1997-98	•Professional development to support new high school Algebra-Geometry-Algebra II curricula from Glencoe publications •The 20 remaining schools in mathematics and 23 remaining schools in science entered into Year 1 training •Year 3 schools in mathematics looked at assessment and demonstrations of student work; in science, a new content area was explored •Local presenters facilitated secondary and mathematics and science programs •Demonstration summer school focused on mathematics and science •Administrator training efforts were re-focused to established site-based leadership
1998-99	•The available professional development days from the State of California were eliminated, effectively ending the mandating of 5 days each year to be devoted to mathematics and science •After school, weekend, summer and substitute release days were all used to fulfill professional development needs of teachers •The USI collaborated with other funded programs (e.g.- the Mentor Program) to expand opportunities for teachers •Having established a 100 hour foundation for all but the new teachers, the Year 4 program focused on effectively implementing the chosen standards based curricula, based on the differentiated needs of teachers. Workshops focused on various units of the curriculum •Lead teachers work with teachers at participating school sites
2000-01	•No changes reported

Standards-based Assessment System Changes During USI Implementation

School Year	Policy Implemented
Before USI	•Assessment was limited to classroom •No system was in place for measuring mathematics and science achievement in a standards-based format •A locally normed- test was used by the district to determine student achievement •Classroom assessment was based on the non-standards-based curricular materials available
1995-96	• Fresno USD participated in the California Systemic Initiatives Assessment Collaborative (CSIAC) science assessments at G5, 8 and 10. •The Individual Test of Academic Skills (ITAS) provided norm-referenced scores
1996-97	•Fresno USD purchased the TerraNova norm-referenced test series and administered the CTBS/5 assessment package at G1-11 for mathematics, and G3, 6 and 7-11 in Science
1997-98	•Science-Embedded Assessment System (SEAS) implemented district-wide at K-G6 •The State of California mandated the use of the Stanford Achievement Test- Series 9 for all California schools receiving public funding
1998-99	•Local standards-based assessment in mathematics and language arts was adopted, developed and piloted by the Fresno USD •A system for data analysis and utilization was instituted
2000-01	•No changes reported

School District Progress Report

March 2002

Los Angeles

Urban School Key Indicators of Science and Mathematics Education: 2001

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Los Angeles USI

Project Information

USI Project Title : Los Angeles USI
Cohort: 94 (Sept. 95 - Aug. 00)
USI Web Site: www.lausd.k12.ca.us/lausd/offices/lasi

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♦ USI Schools Math & Sci. Teachers and Students

99-00	Schools	Teachers	Students
K-G5 (Elementary)	365	15,793	316,649
G6-8 (Middle)	58	1,711	143,266
G9-12 (High)	54	1,176	108,285
Total	477	18,680	568,200

( ) Data Missing

Project Summary

The Los Angeles Unified School District, in partnership with Los Angeles professional, business, scientific, and education communities and through the vehicle of the Los Angeles Systemic Initiative (LA-SI), has reformed the content, delivery, and learning of mathematics, science, and technology in its 722 schools, affecting more than 792,000 students. The LA-SI enables students to achieve the highest standards in mathematics, science, and technology; develop an awareness and an appreciation for these disciplines; and be prepared for higher education, employment, and productive citizenship in a technologically sophisticated 21st century. This dramatic change will become systemic within a 5-year period. The initiative's goals are to improve student learning outcomes in mathematics, science, and technology (MST); to change the scope, sequence, and instructional delivery of MST; to improve management, teacher, and paraprofessional preparation; and to enlist parent and community support. Utilizing the district's newly reconfigured structure, the number of students with access to higher level mathematics and science classes will double and will reflect the ethnic distribution of the district; graduation rates will move to 90 percent; student achievement on performance-based tests of mathematics and science will improve 95 percent; and matriculation rates at college and universities will move to 80 percent. As part of a systemic and sustained effort to significantly improve student achievement in all academic areas, LA-SI is committed to upgrading and reforming both the content and the delivery of mathematics and science education through the implementation of programs designed to meet LA-SI goals. The plan of action to achieve the LA-SI goals proceeds on a variety of fronts and will phase in individual schools over the 5 years.

Project Goals

Creating schools that are centers of learning for everyone. Developing rigorous curricula. Enhancing teacher capacity to teach the new curricula. Recruiting minority teachers from among mathematics and science professionals. Strengthening community partnerships. Raising expectations of achievement for all students. Improving counselor and administrator skills.

Selected School Indicators (District Average)

	94-95	99-00	Change
%Special Ed.	.	4.2%	.
%LEP	.	43.2%	.
%FRL	.	77.9%	.
%Daily Ave. Atten.	.	.	.
%Average Retained	.	.	.
%Drop-Out	.	.	.
%Mobility	.	.	.
Per Pupil Cost ($)	.	.	.
Num of Students Per Computer	.	.	.
% Classrooms Internet Access	.	.	.
Average Class Size	.	.	.

District and USI Fund Utilization (SY 1999-00)

	District	USI
Prof. Dev.	38%	63%
Admin./Coord.	15%	19%
Materials/Supp.	36%	14%
Others	11%	4%
Total	100%	100%

Los Angeles USI

Student Demographics (SY 1999-00)

District Total:	701,452	
USI Schools:	568,200	81%

♦ Race/Ethnicity

	94-95	99-00	%	Change
Ame. Ind./Ala. Nat.	1,774	2,034	0.3%	+14.7%
Asian/P. Islander	45,078	45,286	6.5%	+0.5%
Black	90,842	90,350	12.9%	-0.5%
Hispanic	421,547	494,091	70.4%	+17.2%
White	73,710	69,689	9.9%	-5.5%
Other	0	2	0.0%	.
Total	632,951	701,452		+10.8%
URM Total	514,163	586,475	83.6%	+14.1%

URM: Underrepresented Minority students.

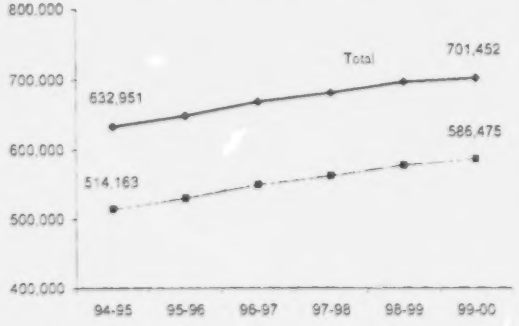
♦ Gender

Male	323,199	357,711	51.0%	+10.7%
Female	309,752	343,741	49.0%	+11.0%

♦ Grade

K-G5	320,260	362,880	51.7%	+13.3%
G6-8	132,801	151,295	21.6%	+13.9%
G9-12	160,637	157,932	22.5%	-1.7%
Ungraded	19,253	29,345	4.2%	+52.4%

♦ District-Wide Student Demographic Trends



12th Grade Graduates

	95-96	97-98	Change
Total 12th Grade	26,918	28,316	+5%
Earned a Diploma	23,957	24,741	+3%
% Earned Diploma	89%	87%	-2 PP

% Earned Diploma

87%

College Entrance

	94-95	99-00	Change
2 Yr College	.	.	.
4 Yr College	.	.	.
Other Post-Secon.	.	.	.
Total C. E.	.	.	.
% C. E./Earned Dip.	.	.	.

% College Entrance

High School Graduation Requirements SY 99-00

- Mathematics
  - 3 Courses
- Science
  - 2 Courses

(.) Data Missing PP: Percentage Points

Math and Science Teachers & Certification

♦ Mathematics (G6-12)

		97-98	99-00	Change
G6-8	Teachers	712	1202	+68.8%
	Certified	.	.	.
	% Cert.	.	.	.
G9-12	Teachers	556	999	+79.7%
	Certified	.	.	.
	% Cert.	.	.	.
Total	Teachers	1,268	2,201	+73.6%
	Certified	.	.	.
	% Cert.	.	.	.

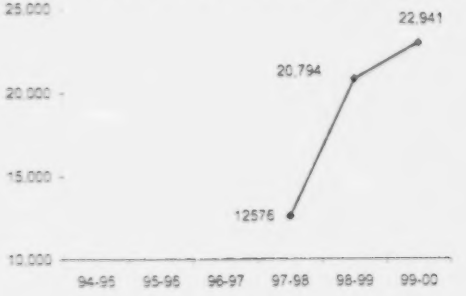
♦ Science (G6-12)

		97-98	99-00	Change
G6-8	Teachers	601	1075	+78.9%
	Certified	.	.	.
	% Cert.	.	.	.
G9-12	Teachers	423	806	+90.5%
	Certified	.	.	.
	% Cert.	.	.	.
Total	Teachers	1,024	1,881	+83.7%
	Certified	.	.	.
	% Cert.	.	.	.

♦ Math and Science (K-G5)

		97-98	99-00	Change
K-G5	Teachers	10,284	18,838	+83.2%

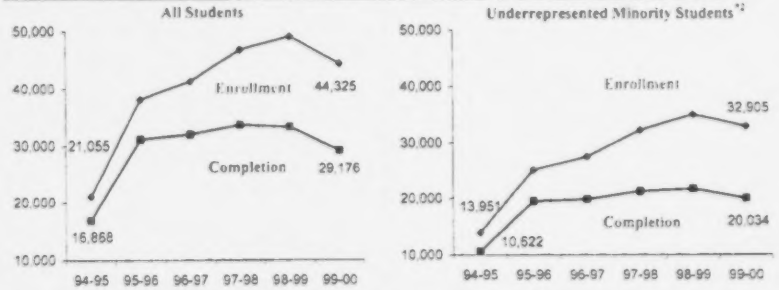
Total Number of Math and Sci. Teachers (K-G12)



Mathematics and Science Enrollment & Completion Trends/ All vs. URM

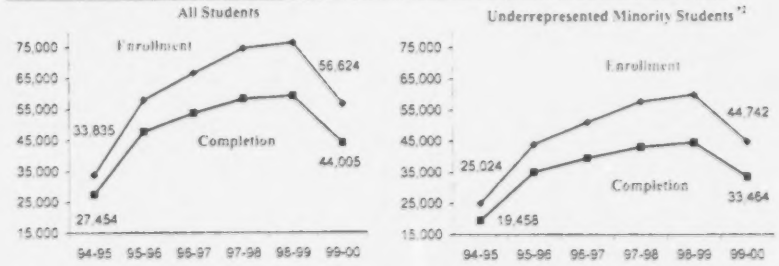
G 9-12 Mathematics Gate-Keeping Courses (Algebra II, Geo., and Calculus)

		94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		160,637	160,636	164,991	166,739	167,949	157,932
All Students	Enrollment	21,055	38,141	41,335	46,752	49,073	44,325
	Completion *1	16,868	31,093	31,983	33,664	33,271	29,176
	% Enroll/ G9-12	13%	24%	25%	28%	29%	28%
URM *2	Enrollment	13,951	25,083	27,502	32,258	34,947	32,905
	Completion *1	10,622	19,507	19,847	21,220	21,693	20,034
	% Enroll/ G9-12	11%	20%	21%	24%	26%	26%



G 9-12 Science Gate-Keeping Courses (Biology 1, Chem. 1, and Physics 1)

		94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		160,637	160,636	164,991	166,739	167,949	157,932
All Students	Enrollment	33,835	58,018	66,502	74,488	76,272	56,624
	Completion *1	27,454	47,828	53,658	58,270	59,126	44,005
	% Enroll/ G9-12	21%	36%	40%	45%	45%	36%
URM *2	Enrollment	25,024	43,896	51,059	57,634	59,802	44,742
	Completion *1	19,458	34,995	39,561	43,110	44,471	33,464
	% Enroll/ G9-12	20%	35%	39%	44%	45%	36%

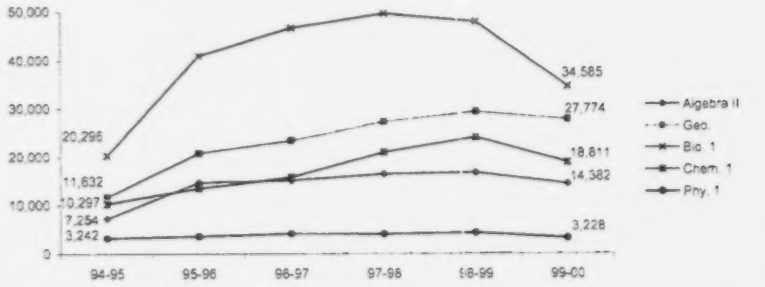


*1 Successful completion: grade 'D' or above.
*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Mathematics and Science Enrollment & Completion Trends By Subject

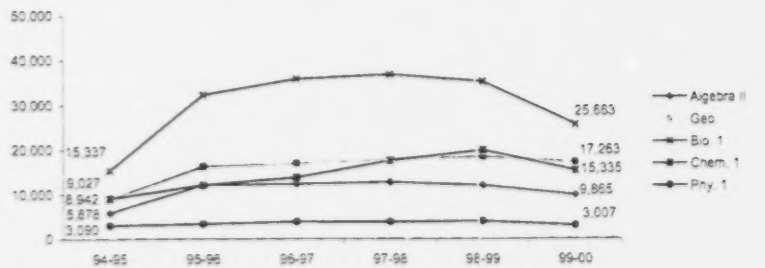
G 9-12 Course Enrollment (All Students)

	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
94-95	7,254	11,632	2,169	21,055	20,296	10,297	3,242	33,835
95-96	14,693	20,699	2,749	38,141	40,953	13,489	3,576	58,018
96-97	15,126	23,397	2,812	41,335	46,638	15,728	4,136	66,502
97-98	16,400	27,343	3,009	46,752	49,526	20,927	4,035	74,488
98-99	16,746	29,368	2,959	49,073	47,921	24,067	4,284	76,272
99-00	14,382	27,774	2,169	44,325	34,585	18,811	3,228	56,624



G 9-12 Course Completion *1 (All Students)

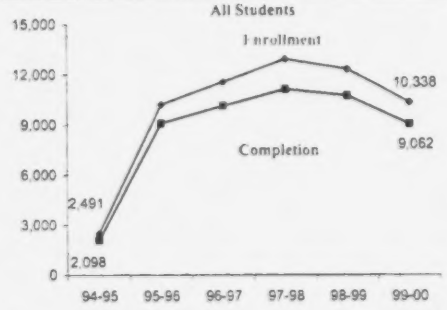
	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
94-95	5,878	8,942	2,048	16,868	15,337	9,027	3,090	27,454
95-96	12,141	16,281	2,671	31,093	32,296	12,096	3,436	47,828
96-97	12,341	16,934	2,708	31,983	33,888	13,840	3,930	53,658
97-98	12,745	18,022	2,897	33,664	36,812	17,587	3,871	58,270
98-99	12,000	18,447	2,824	33,271	33,244	19,885	3,997	59,126
99-00	9,865	17,263	2,048	29,176	25,663	15,335	3,007	44,005

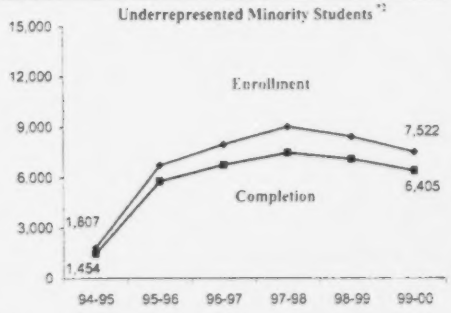


*3 Calculus not represented on graph.

Algebra I or Above in 8th Grade Enrollment & Completion Trends/ All vs. URM

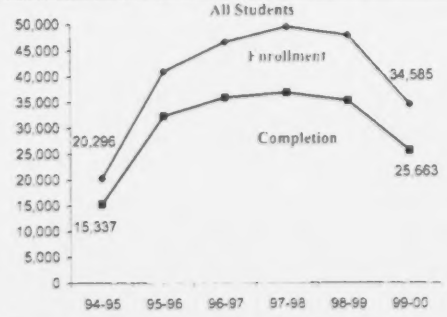
		94-95	95-96	96-97	97-98	98-99	99-00
Total G 8 Population		43,026	43,537	43,039	43,236	45,053	48,162
All Students	Enrollment	2,491	10,208	11,544	12,918	12,315	10,338
	Completion *1	2,098	9,101	10,123	11,114	10,736	9,062
	% Enroll/ G8	6%	23%	27%	30%	27%	21%
URM *2	Enrollment	1,807	6,730	7,985	9,034	8,433	7,522
	Completion *1	1,454	5,791	6,748	7,479	7,102	6,405
	% Enroll/ G8	5%	19%	23%	26%	23%	19%

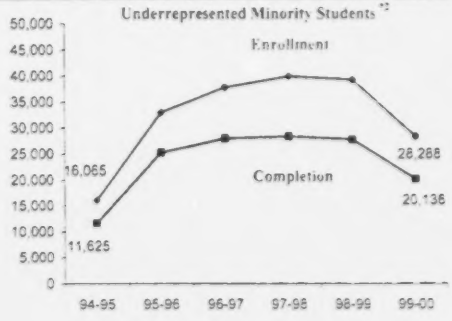




Biology Enrollment & Completion Trends/ All vs. URM

		94-95	95-96	96-97	97-98	98-99	99-00
All Students	Enrollment	20,296	40,953	46,638	49,526	47,921	34,585
	Completion *1	15,337	32,296	35,888	36,812	35,244	25,663
URM *2	Enrollment	16,065	32,954	37,766	39,907	39,242	28,288
	Completion *1	11,625	25,242	27,959	28,336	27,724	20,136





*1 Successful completion: grade 'D' or above.

*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Professional Development Participation of Teachers Teaching Mathematics and/or Science

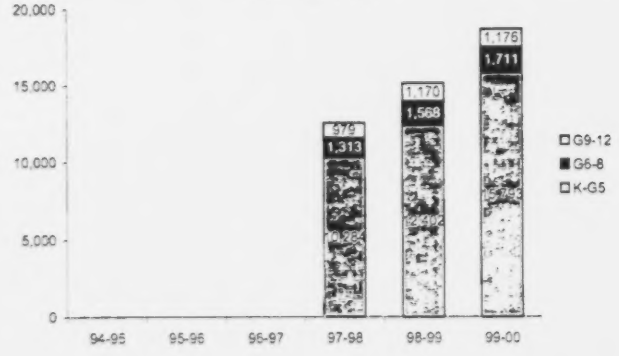
Total Number Teachers by Subject (G6-12)

	94-95	95-96	96-97	97-98	98-99	99-00
Mathematics	.	.	.	1,268	2,277	1,609
Science	.	.	.	1,024	1,805	1,278

Total Number of Teachers Participating in PD by Grade Level

Teachers	94-95	95-96	96-97	97-98	98-99	99-00
Total K-G5	.	.	.	10,284	17,712	18,838
# K-G5 Participated	.	.	.	10,284	12,402	15,793
% K-G5 Participated	.	.	.	100%	70%	84%
Total G6-8	.	.	.	1,313	2,201	2,201
# G6-8 Participated	.	.	.	1,313	1,568	1,711
% G6-8 Participated	.	.	.	100%	71%	78%
Total G9-12	.	.	.	979	1,881	1,881
# G9-12 Participated	.	.	.	979	1,170	1,176
% G9-12 Participated	.	.	.	100%	62%	63%

Number of Teachers Participating in Professional Development by Grade Level Taught



Number of Teachers by Duration of Professional Development

	94-95	95-96	96-97	97-98	98-99	99-00
1-59 Hours	.	.	.	11,700	12,717	15,690
60-119 Hours	.	.	.	702	1,515	1,868
120-200 Hours	.	.	.	145	606	747
More than 200 Hours	.	.	.	29	302	375

(.) Data Missing

Los Angeles USI

District Assessment Test Administered

♦ **Mathematics**

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name						
Scoring						
Grade						
Type						

♦ **Science**

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name						
Scoring						
Grade						
Type						

State Assessment Test Administered

♦ **Mathematics**

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name			SAT/9	SAT/9	SAT/9	SAT/9
Scoring			PC,SS	PC,SS	PC,SS	PC,SS
Grade			G 1-11	G 1-11	G 1-11	G 1-11
Type			NRT	NRT	NRT	NRT

♦ **Science**

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name			SAT/9	SAT/9	SAT/9	SAT/9
Scoring			PC,SS	PC,SS	PC,SS	PC,SS
Grade			G 1-11	G 1-11	G 1-11	G 1-11
Type			NRT	NRT	NRT	NRT

* SAT/9: Stanford Achievement Test, 9th Edition

PC: Percentile SN: Stanine PL: Performance Level

PF: Pass/Fail SS: Scaled Score OT: Other

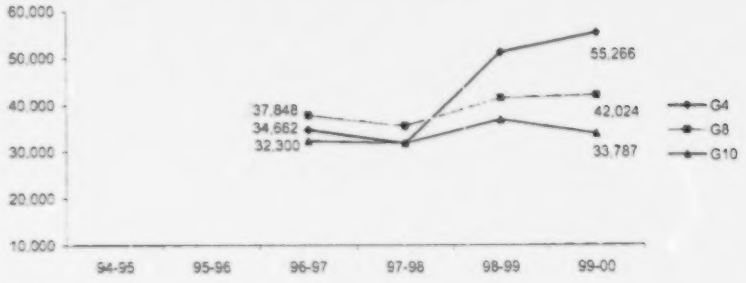
NRT: Norm-Referenced Test CRT: Criterion-Referenced Test

State Assessment Test-Taker Trends - SAT/9

♦ **Mathematics**

# of Test-takers	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4	.	.	34,662	31,773	51,167	55,266
Grade 8	.	.	37,848	35,518	41,473	42,024
Grade 10	.	.	32,300	31,846	36,822	33,787

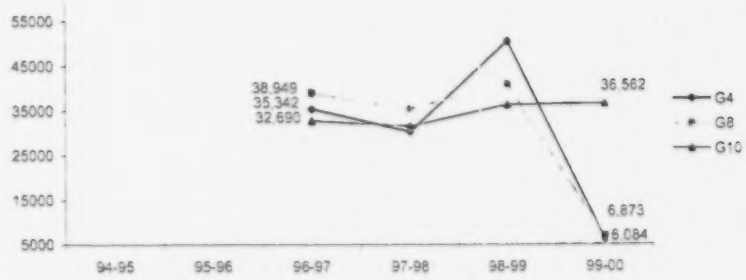
Total number of students taking test



♦ **Science**

# of Test-takers	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4	.	.	35,342	30,327	50,453	6,084
Grade 8	.	.	38,949	35,470	40,839	6,873
Grade 10	.	.	32,690	31,523	36,314	36,562

Total number of students taking test

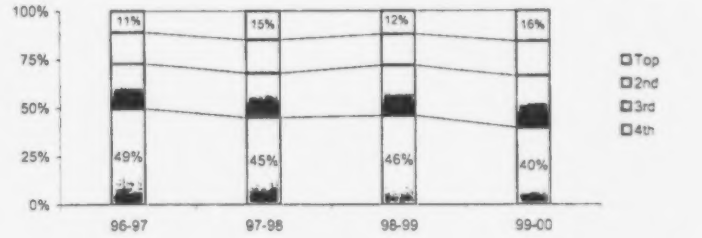


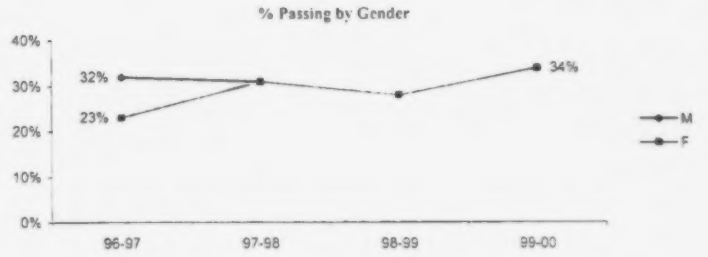
Los Angeles USI

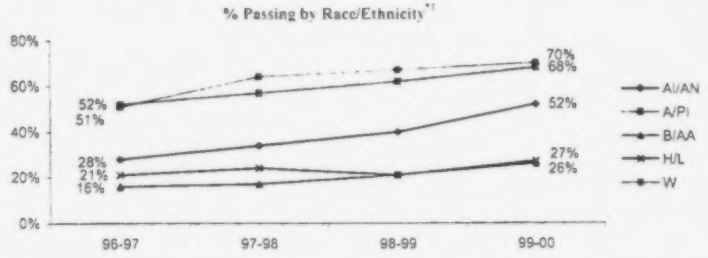
State Assessment Test Result Trends - SAT/9 Mathematics

♦ **Grade 4**

Quartile	94-95	95-96	96-97	97-98	98-99	99-00
Top			11%	15%	12%	16%
2nd			16%	17%	16%	18%
3rd			23%	23%	26%	27%
4th			49%	45%	46%	40%
Total num of students			34,662	31,773	51,167	55,266



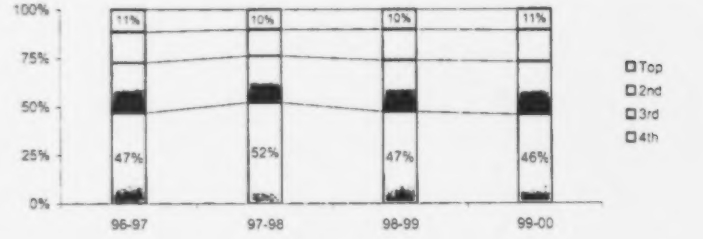


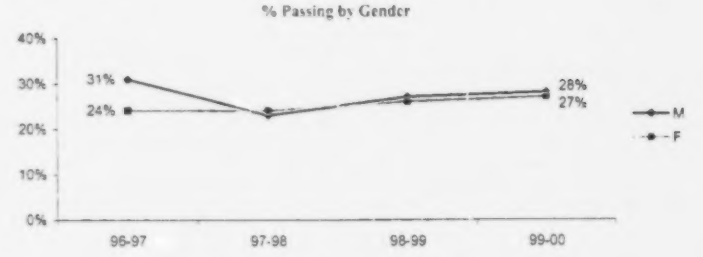


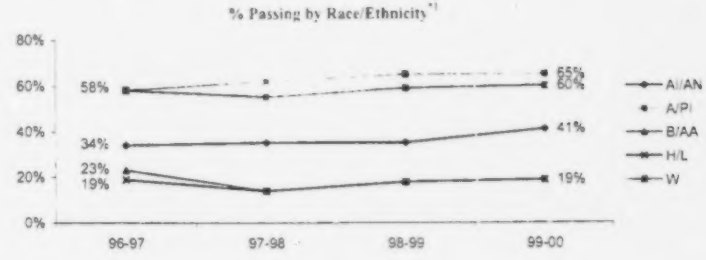
State Assessment Test Result Trends - SAT/9 Mathematics

♦ **Grade 8**

Quartile	94-95	95-96	96-97	97-98	98-99	99-00
Top			11%	10%	10%	11%
2nd			16%	14%	16%	16%
3rd			26%	24%	26%	27%
4th			47%	52%	47%	46%
Total num of students			37,848	33,518	41,473	42,024







AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as Top Quartile + 2nd Quartile

*1 "Other" Category Not Included in Presented Data

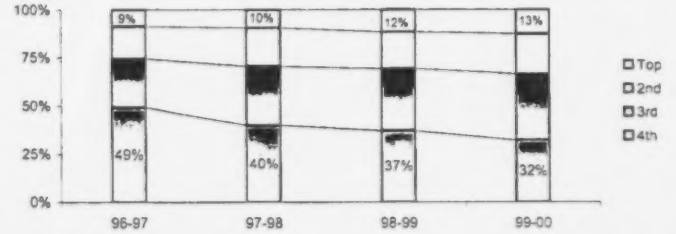
( ) Data Missing

Los Angeles USI

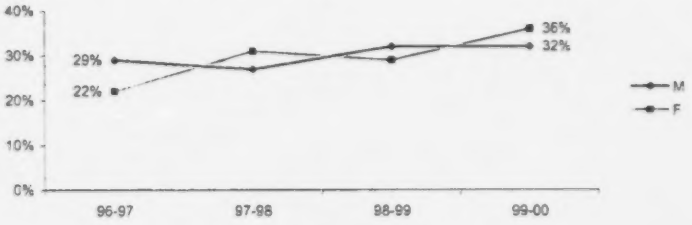
State Assessment Test Result Trends - SAT/9 Mathematics

♦ **Grade 10**

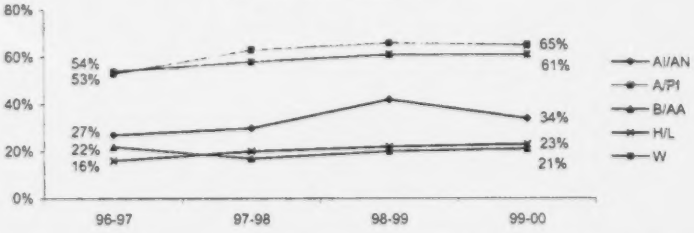
Quartile	94-95	95-96	96-97	97-98	98-99	99-00
Top			9%	10%	12%	13%
2nd			17%	20%	19%	21%
3rd			25%	31%	32%	34%
4th			49%	40%	37%	32%
Total num of students			32,300	31,846	36,822	33,787



% Passing by Gender



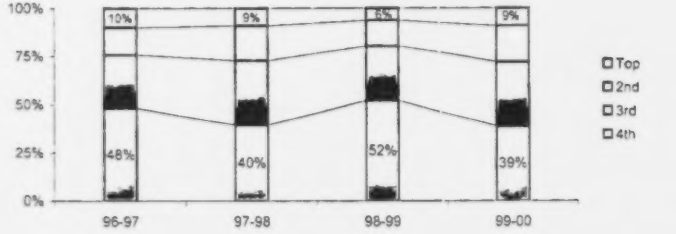
% Passing by Race/Ethnicity*1



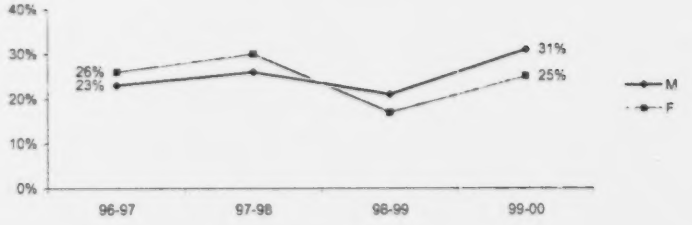
State Assessment Test Result Trends - SAT/9 Science

♦ **Grade 4**

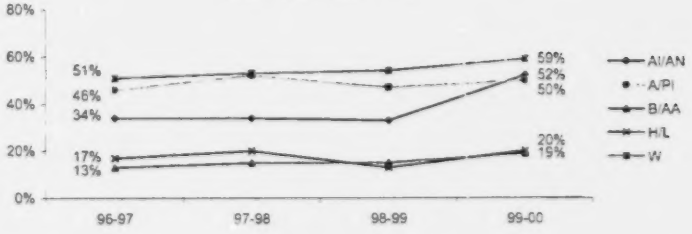
Quartile	94-95	95-96	96-97	97-98	98-99	99-00
Top			10%	9%	6%	9%
2nd			14%	18%	13%	19%
3rd			28%	33%	28%	33%
4th			48%	40%	52%	39%
Total num of students			35,342	30,327	50,453	6,084



% Passing by Gender



% Passing by Race/Ethnicity*1



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% Passing defined as Top Quartile + 2nd Quartile

*1 "Other" Category Not Included in Presented Data

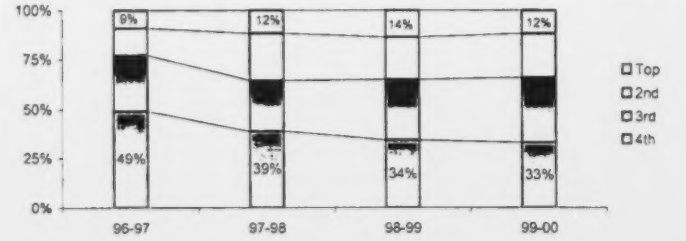
(.) Data Missing

Los Angeles USI

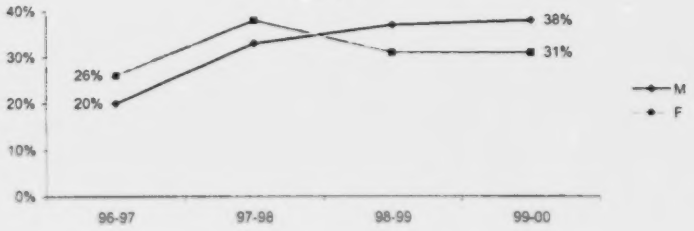
State Assessment Test Result Trends - SAT/9 Science

♦ **Grade 8**

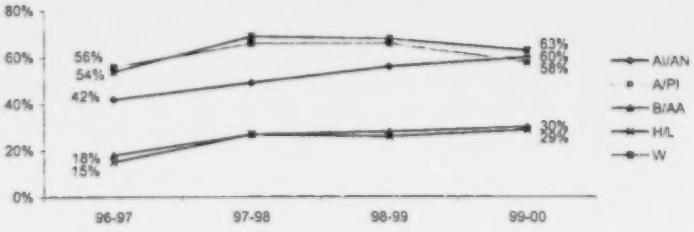
Quartile	94-95	95-96	96-97	97-98	98-99	99-00
Top			9%	12%	14%	12%
2nd			14%	24%	21%	22%
3rd			28%	26%	31%	33%
4th			49%	39%	34%	33%
Total num of students			38,949	35,470	40,839	6,873



% Passing by Gender



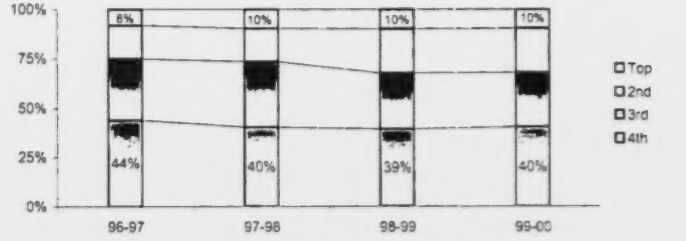
% Passing by Race/Ethnicity*1



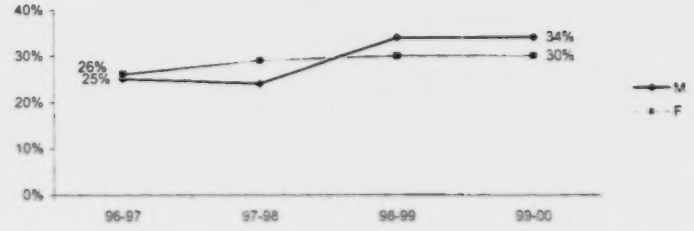
State Assessment Test Result Trends - SAT/9 Science

♦ **Grade 10**

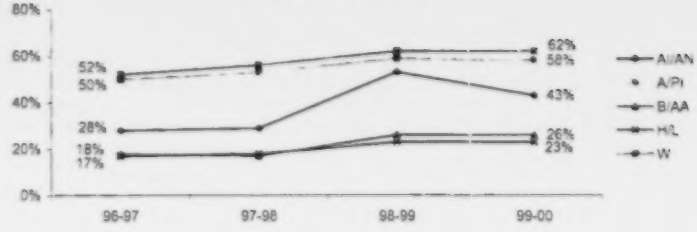
Quartile	94-95	95-96	96-97	97-98	98-99	99-00
Top			8%	10%	10%	10%
2nd			17%	16%	22%	22%
3rd			31%	33%	28%	28%
4th			44%	40%	39%	40%
Total num of students			32,690	31,523	36,314	36,562



% Passing by Gender



% Passing by Race/Ethnicity*1



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% Passing defined as Top Quartile + 2nd Quartile

*1 "Other" Category Not Included in Presented Data

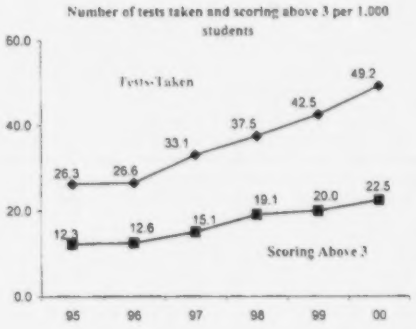
( ) Data Missing

Los Angeles USI

AP Mathematics Test Result Trends

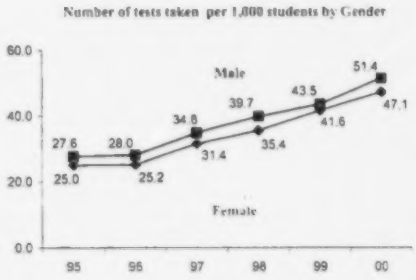
♦ AP Mathematics - Total Number of Tests Taken

		95	96	97	98	99	00
Total num of 11th & 12th students		62,903	62,978	63,824	65,497	65,543	59,418
Tests Taken	Calc. AB	1,329	1,352	1,390	1,540	1,696	1,715
	Calc. BC	327	323	380	477	501	556
	Statistics	0	0	342	441	589	654
	Total	**1,656**	**1,675**	**2,112**	**2,458**	**2,786**	**2,925**
Num of tests-taken/1,000 stu.		26.3	26.6	33.1	37.5	42.5	49.2
Scoring Above 3		774	793	963	1,253	1,309	1,337
Num of Above 3/ 1,000 students		12.3	12.6	15.1	19.1	20.0	22.5



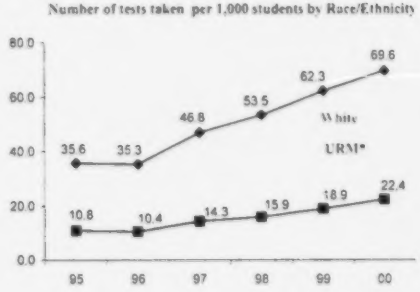
♦ AP Mathematics - Number of Tests Taken By Gender Per 1,000 Students

		95	96	97	98	99	00
Tests Taken per 1,000	Male	27.6	28.0	34.8	39.7	43.5	51.4
	Female	25.0	25.2	31.4	35.4	41.6	47.1



♦ AP Mathematics - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [*1]

	95	96	97	98	99	00
AI/AN	15.2	20.1	18.4	34.1	32.6	37.7
A/PI	101.9	111.4	129.8	147.2	155.7	178.6
B/AA	7.6	8.7	13.1	13.2	16.6	21.5
H/L	11.5	10.7	14.6	16.5	19.4	22.6
W	35.6	35.3	46.8	53.5	62.3	69.6



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander

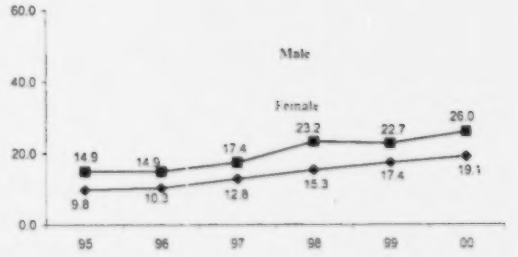
B/AA: Black or African American H/L: Hispanic or Latino W: White

[*1] "Other" category not presented

♦ AP Mathematics (Calculus AB, Calculus BC, & Statistics)

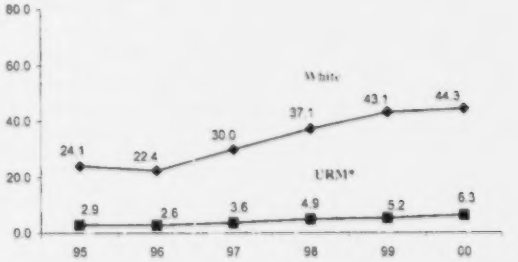
♦ AP Mathematics - Number of Students Scoring Above 3 By Gender per 1,000 Students

		95	96	97	98	99	00
Score Above 3 per 1,000	Male	14.9	14.9	17.4	23.2	22.7	26.0
	Female	9.8	10.3	12.8	15.3	17.4	19.1



♦ AP Mathematics - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [*1]

	95	96	97	98	99	00
AI/AN	5.1	15.1	9.2	14.6	14.0	14.2
A/PI	50.6	61.2	68.4	84.7	80.1	90.4
B/AA	2.4	1.2	3.4	5.1	3.5	5.8
H/L	3.0	2.9	3.6	4.8	5.6	6.3
W	24.1	22.4	30.0	37.1	43.1	44.3



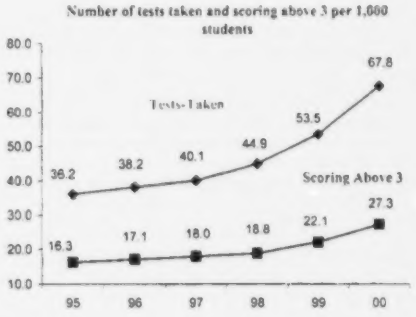
*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

Los Angeles USI

AP Science Test Result Trends ♦ AP Science (Biology, Chemistry, Environ. Sci., Phy. B, Phy. C Mech., & Phy. C Elec.)

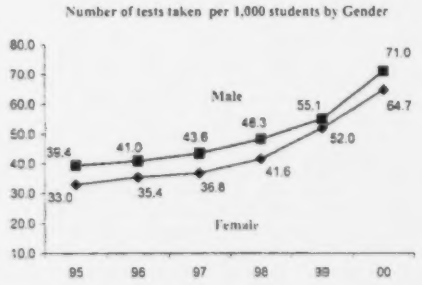
♦ **AP Science - Total Number of Tests Taken**

		95	96	97	98	99	00
Total num of 11th & 12th students		62,903	62,978	63,824	65,497	65,543	59,418
Tests Taken	Biology	1,056	1,084	1,110	1,238	1,385	1,478
	Chem.	686	751	858	897	916	945
	Enviro. Sci.	0	0	0	155	463	741
	Physics B	85	122	154	232	307	422
	Ph. C Mech.	315	283	289	294	324	324
	Ph. C Elec.	133	164	149	123	111	116
	Total	**2,275**	**2,404**	**2,560**	**2,939**	**3,506**	**4,028**
Num of tests-taken/1,000 stu.		36.2	38.2	40.1	44.9	53.5	67.8
Scoring Above 3		1,027	1,079	1,146	1,234	1,446	1,620
Num of Above 3/ 1,000 students		16.3	17.1	18.0	18.8	22.1	27.3



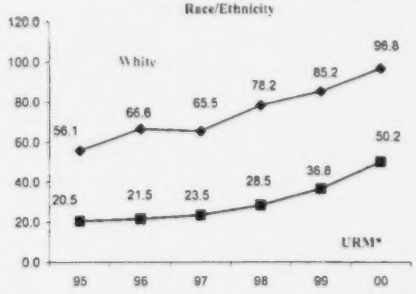
♦ **AP Science - Number of Tests Taken By Gender Per 1,000 Students**

		95	96	97	98	99	00
Tests Taken per 1,000	Male	39.4	41.0	43.6	48.3	55.1	71.0
	Female	33.0	35.4	36.8	41.6	52.0	64.7



♦ **AP Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students** *1

	95	96	97	98	99	00
AI/AN	45.5	30.2	41.5	43.9	41.9	66.0
A/PI	163.1	170.0	178.9	177.1	198.1	232.9
B/AA	67.7	70.4	72.0	94.2	107.2	130.0
H/L	8.6	9.2	12.0	13.4	20.7	32.3
W	56.1	66.6	65.5	78.2	85.2	96.8



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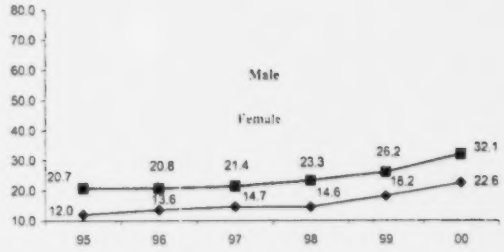
*1 "Other" category not presented

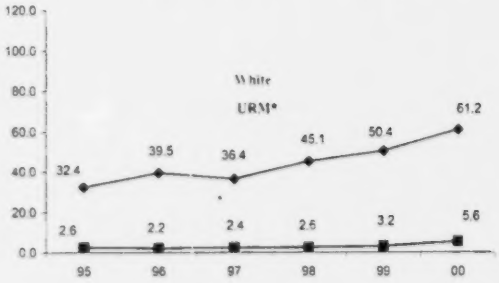
♦ **AP Science - Number of Students Scoring Above 3 By Gender per 1,000 Students**

		95	96	97	98	99	00
Score Above 3 per 1,000	Male	20.7	20.8	21.4	23.3	26.2	32.1
	Female	12.0	13.6	14.7	14.6	18.2	22.6



♦ **AP Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students** *1

	95	96	97	98	99	00
AI/AN	15.2	5.0	13.8	24.4	14.0	18.9
A/PI	72.4	76.0	89.5	81.4	99.3	114.9
B/AA	1.9	2.6	2.6	2.7	3.4	5.4
H/L	2.7	2.1	2.3	2.4	3.1	5.5
W	32.4	39.5	36.4	45.1	50.4	61.2



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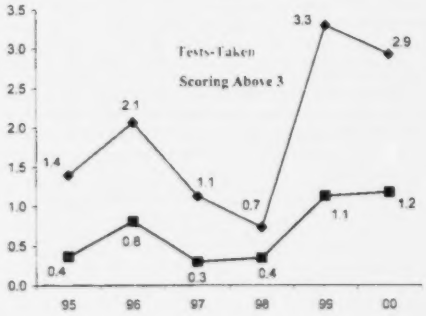
AP Computer Science Test Result Trends ♦ **AP Computer Science (Computer Science A & AB)**

♦ **AP Computer Science - Total Number of Tests Taken**

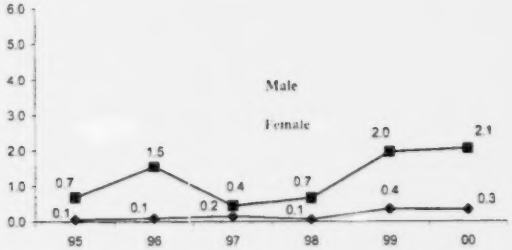
		95	96	97	98	99	00
Total num of 11th & 12th students		62,903	62,978	63,824	65,497	65,543	59,418
Tests Taken	Comp. Sci A	48	76	47	42	146	130
	Comp. Sci. AB	40	54	25	6	70	44
	Total	**88**	**130**	**72**	**48**	**216**	**174**
Num of tests-taken/1,000 stu.		1.4	2.1	1.1	0.7	3.3	2.9
Scoring Above 3		23	51	19	23	74	70
Num of Above 3/ 1,000 students		0.4	0.8	0.3	0.4	1.1	1.2

Number of tests taken and scoring above 3 per 1,000 students



♦ **AP Computer Science - Number of Students Scoring Above 3 by Gender per 1,000 Students**

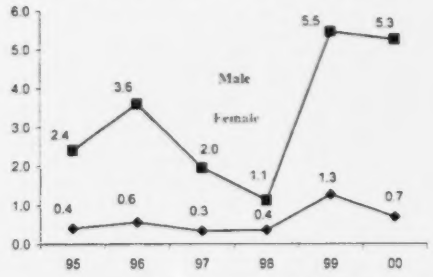
		95	96	97	98	99	00
Score Above 3 per 1,000	Male	0.7	1.5	0.4	0.7	2.0	2.1
	Female	0.1	0.1	0.2	0.1	0.4	0.3



♦ **AP Computer Science - Number of Tests Taken By Gender Per 1,000 Students**

		95	96	97	98	99	00
Tests Taken per 1,000	Male	2.4	3.6	2.0	1.1	5.5	5.3
	Female	0.4	0.6	0.3	0.4	1.3	0.7

Number of tests taken per 1,000 students by Gender



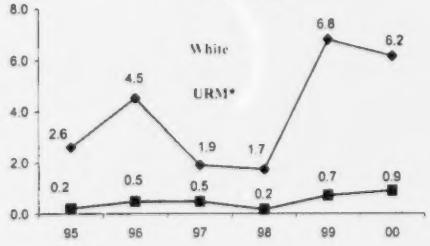
♦ **AP Computer Science - Number of Students Scoring Above 3 by Race/Ethnicity per 1,000 Students**[*1]

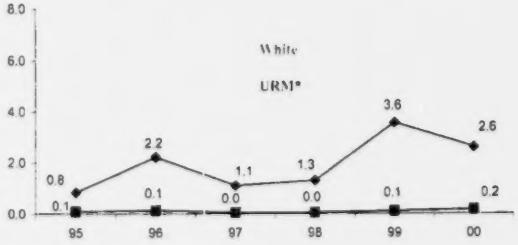
	95	96	97	98	99	00
AI/AN	0.0	5.0	0.0	0.0	0.0	0.0
A/PI	1.4	3.2	0.8	1.2	4.6	5.8
B/AA	0.1	0.0	0.0	0.1	0.0	0.2
H/L	0.1	0.1	0.1	0.0	0.1	0.1
W	0.8	2.2	1.1	1.3	3.6	2.6

♦ **AP Computer Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students** [*1]

	95	96	97	98	99	00
AI/AN	0.0	5.0	0.0	0.0	0.0	4.7
A/PI	6.7	8.4	3.9	2.9	15.8	11.0
B/AA	0.2	0.2	0.3	0.2	0.5	1.1
H/L	0.2	0.5	0.5	0.1	0.7	0.8
W	2.6	4.5	1.9	1.7	6.8	6.2

Number of tests taken per 1,000 students by Race/Ethnicity





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[*1] "Other" category not presented

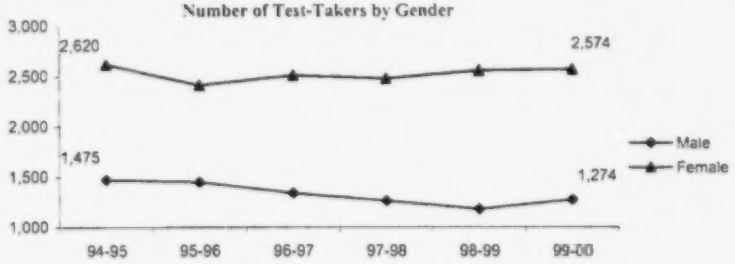
*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

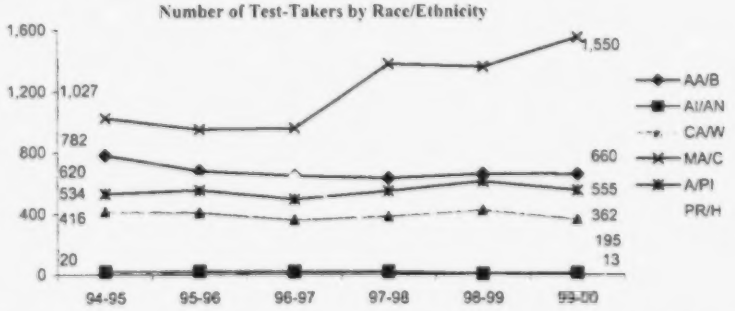
Los Angeles USI

ACT Test-Takers

♦ Number of Test-Takers

		94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		27,214	26,918	27,387	28,316	29,206	28,015
Test-Takers		4,095	3,865	3,858	3,742	3,747	3,858
Num of Test-Takers/1,000 Stu.		150	144	141	132	128	138
Gender	Male	1,475	1,451	1,344	1,263	1,179	1,274
	Female	2,620	2,414	2,514	2,479	2,558	2,574
Race/Ethnicity	AA/B	782	680	649	632	661	660
	AI/AN	20	19	18	18	5	13
	CA/W	416	406	358	381	423	362
	MA/C	1,027	951	958	1,377	1,360	1,550
	A/PI	534	556	497	551	613	555
	PR/H	620	618	639	257	196	195

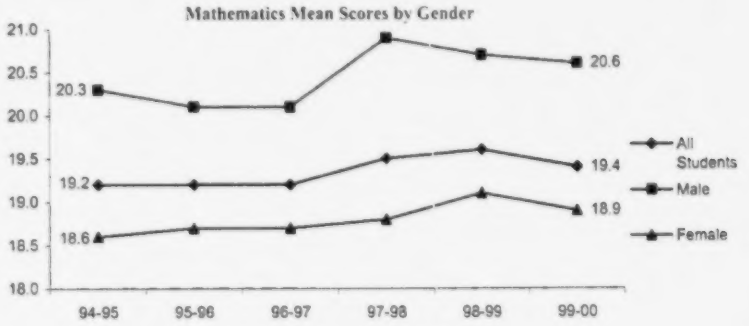


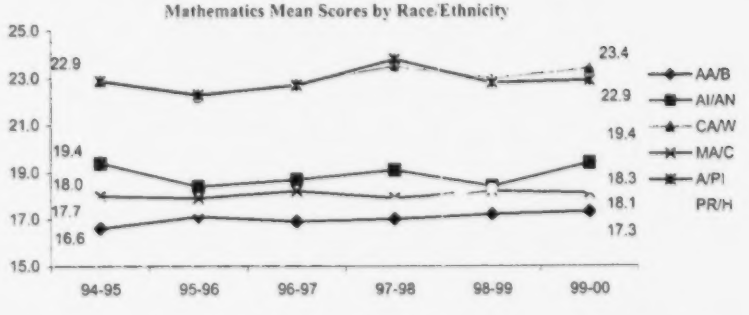


ACT Mathematics Scores

♦ Mathematics - Mean Score Trends

		94-95	95-96	96-97	97-98	98-99	99-00
All Students		19.2	19.2	19.2	19.5	19.6	19.4
Gender	Male	20.3	20.1	20.1	20.9	20.7	20.6
	Female	18.6	18.7	18.7	18.8	19.1	18.9
Race/Ethnicity	AA/B	16.6	17.1	16.9	17.0	17.2	17.3
	AI/AN	19.4	18.4	18.7	19.1	18.4	19.4
	CA/W	22.9	22.2	22.8	23.5	23.0	23.4
	MA/C	18.0	17.9	18.2	17.9	18.2	18.1
	A/PI	22.9	22.3	22.7	23.8	22.8	22.9
	PR/H	17.7	17.4	17.7	17.7	18.3	18.3





AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispa

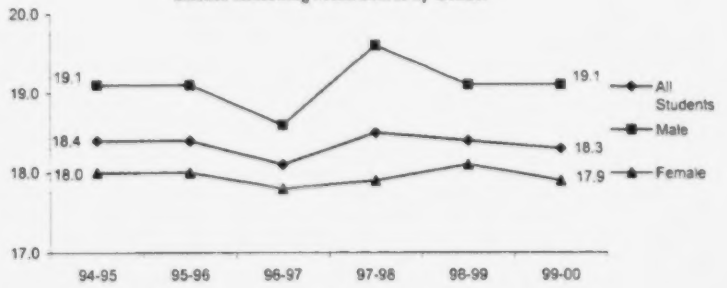
Los Angeles USI

ACT Science Reasoning Scores

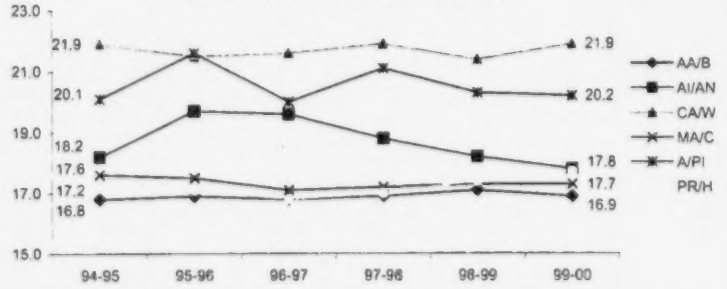
♦ **Science Reasoning - Mean Score Trends**

		94-95	95-96	96-97	97-98	98-99	99-00
All Students		18.4	18.4	18.1	18.5	18.4	18.3
Gender	Male	19.1	19.1	18.6	19.6	19.1	19.1
	Female	18.0	18.0	17.8	17.9	18.1	17.9
Race/Ethnicity	AA/B	16.8	16.9	16.8	16.9	17.1	16.9
	AI/AN	18.2	19.7	19.6	18.8	18.2	17.8
	CA/W	21.9	21.5	21.6	21.9	21.4	21.9
	MA/C	17.6	17.5	17.1	17.2	17.3	17.3
	A/PI	20.1	21.6	20.0	21.1	20.3	20.2
	PR/H	17.2	17.1	16.8	17.0	17.4	17.7

Science Reasoning Mean Scores by Gender



Science Reasoning Mean Scores by Race/Ethnicity



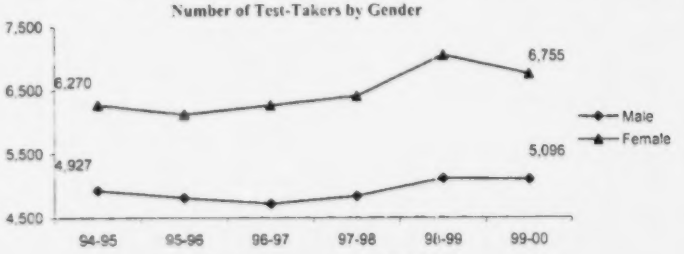
AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.

SAT Test-Takers

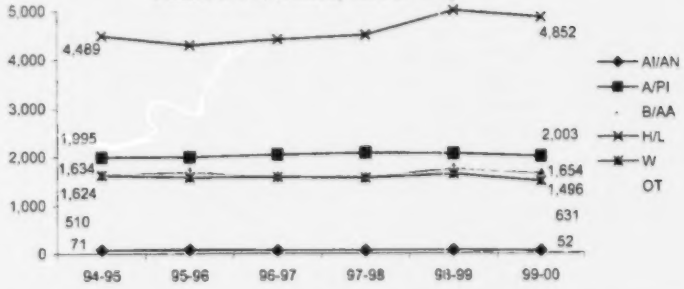
♦ **Number of Test-Takers**

		94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		27,214	26,918	27,387	28,316	29,206	28,015
Test-Takers		11,197	10,926	10,980	11,241	12,162	11,851
Num of Test-Takers/1,000 Stu		411	406	401	397	416	423
Gender	Male	4,927	4,807	4,721	4,834	5,108	5,096
	Female	6,270	6,119	6,259	6,407	7,054	6,755
Race/Ethnicity	AI/AN	71	81	65	63	67	52
	A/PI	1,995	1,997	2,047	2,078	2,065	2,003
	B/AA	1,634	1,684	1,578	1,575	1,751	1,654
	H/L	4,489	4,297	4,412	4,498	5,000	4,852
	W	1,624	1,580	1,591	1,567	1,648	1,496
	OT	510	554	526	556	620	631

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

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SAT Mathematics Scores

♦ **Mathematics - Mean Score Trends**

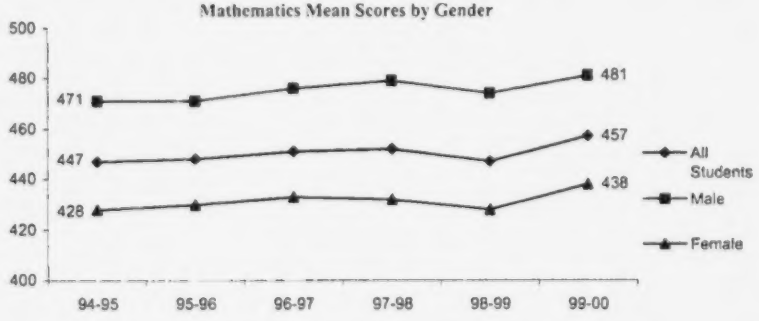
		94-95	95-96	96-97	97-98	98-99	99-00
All Students		447	448	451	452	447	457
Gender	Male	471	471	476	479	474	481
	Female	428	430	433	432	428	438
Race/Ethnicity	AI/AN	438	468	435	467	429	466
	A/PI	516	517	522	526	519	526
	B/AA	389	396	398	400	395	403
	H/L	409	408	412	409	405	416
	W	521	524	527	531	531	538
	OT	486	485	488	493	480	489

SAT Verbal Scores

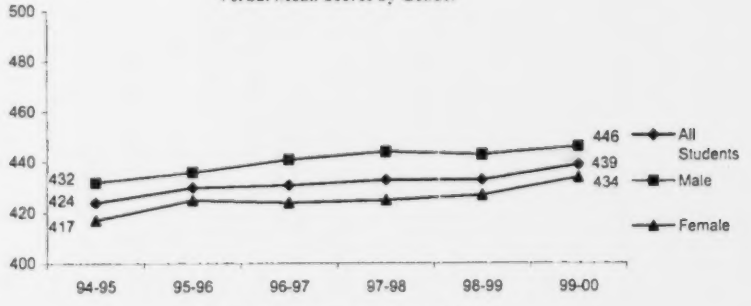
♦ **Verbal - Mean Score Trends**

		94-95	95-96	96-97	97-98	98-99	99-00
All Students		424	430	431	433	433	439
Gender	Male	432	436	441	444	443	446
	Female	417	425	424	425	427	434
Race/Ethnicity	AI/AN	452	484	450	465	434	460
	A/PI	448	455	460	467	467	469
	B/AA	399	403	410	407	405	411
	H/L	392	399	397	397	399	406
	W	507	512	513	518	517	525
	OT	459	462	462	469	464	466

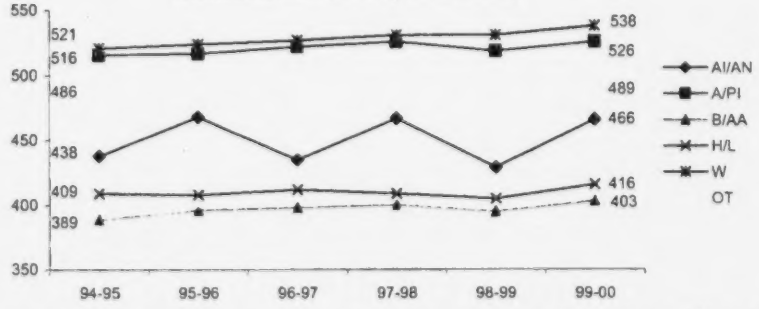
Mathematics Mean Scores by Gender



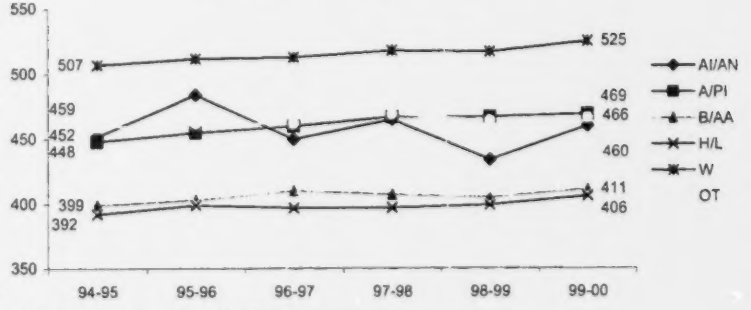
Verbal Mean Scores by Gender



Mathematics Mean Scores by Race/Ethnicity



Verbal Mean Scores by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

Los Angeles USI

Cohort/Scale-Up Approach

	95-96	96-97	97-98	98-99	99-00
Number of District Schools*:	*773*	*773*	*773*	773	655
USI Schools**:	122	287	364	521	567
% Schools:	16%	37%	47%	67%	87%

*Core Data Elements 2000-2001; ** K-1 2001

Italics: Data Imputed

Primary Decision Making Body

Standards Curriculum	District
Curriculum/TextBook Adoption	State
Student Assessment	District
Professional Development	District
Resources	District
Teacher Hiring	District
Teacher Contracts	District
Certification & Re-certification	State
Graduation Requirements	District
School-Based Management?	Yes

Policies Promoting Equal Access by All Students in High Quality Education

Student Tracking:
- Remedial classes eliminated

Criteria for Entry into High Level Mathematics and Science Courses:
- 4 years of college preparatory math
- 3 years of college preparatory science are offered to replace remedial classes

Availability of High Level Courses:
- AP Environmental Science and AP Statistics offered

Special Education and Bilingual Students:
- Sheltered content part of all professional development, and is included in an activity-based, guided inquiry environment of integrated math and science
- Field science extended to Special Education

Policies Impacting the Enrollment of Students in Challenging Math and Science Courses

Attendance:
- School Accountability
- Incentives offered

Guidance:
- Work with school counselors as remedial classes eliminated

Student Support Systems:
- Bridge program in cooperation with UCLA
- Hewlett Packard program in cooperation with UCLA as well

Policies Relevant to Curriculum

Framework:

Curricula:

Curricula Materials:
- Mathland
- Quest 2000
- Connected Mathematics
- Interactive Mathematics
- Full Option Science System (FOSS)
- Science and Technology for Children (STC)
- PRIME
- Zubrowsky Science
- Integrated Mathematics (McDougal Lytel)
- SEPUP
- Science Plus

New Courses Added as a Result of USI:
- AP Environmental Science
- AP Statistics

Instructional Time:
- No minimum time: based on adoption and implementation of standards-based, comprehensive curriculum

Standards-based Curriculum and Instruction

Standards Adopted:
- National Council of Teachers of Mathematics (NCTM)
- National Science Education Standards (NSES)

Primary Instructional Strategies:
- Kit-based Science
- Open-ended questions for Math
- Problem solving
- Investigations
- Guided inquiry

% of Students Experiencing Standards-based Mathematics Curriculums:	E: M: H:
% of Students Experiencing Standards-based Science Curriculums:	E: M: H:

Policies Relevant to Teacher Qualifications

Certification:
- Credentials upgrade classes offered by LA-SI

Requirement & Hiring Practices:
- District determined

Professional Advancement & Leadership Training:
- Leadership Academy leads to school plans

Contract Requirements:

E: Elementary School M: Middle School H: High School

Los Angeles USI

Professional Development Policies and Practices

Time Required or Supported:	• After school • Saturdays • Banked time
Financial Resources Provided:	• Leveraged funds from schools • Block Grants • Matching funds • School general funds • Bilingual funds
Alignment to Student Standards:	• All professional development is based on district, state, and national standards
Measurement of Impact:	
Other:	• Regular visits to schools to determine professional development needs
Type and Amount Received by Average Math/Science Teacher:	• Grade level and school wide • Intra and between school networks • LLASI supported school wide plans • Workshops: grade level, Eisenhower, Intern Workshops • Department chair meetings
Evaluation Instruments:	• Student, teacher and principal questionnaires, validated by classroom observation
Professional Development Alignment to Content Standards Measures:	
Teacher's Instructional Practices Evaluation:	

Impact on Student Achievement:	• Demonstrated increases on Stanford-9, increased enrollment in academic courses and authentic assessment.

Policies Relevant to Standards-based Assessments

Extent to Which Assessments are Aligned to District Standards and Curriculums:	• Fair match for G3-11 mathematics • Fair match for G3-5 science • Good match for G6-11 science
Methods stakeholders are informed of goals, objectives and accomplishments of assessment program:	• Video programs about several LA-SI endeavors such as Instrumental Enrichment and Holography feature on the KLCS, the District Television station • LA-SI short presentations featured on local television stations • Math Science Technology Minutes broadcast on LAUSD as well as commercial television stations • News articles

USI Leadership, Governance, and Management

Superintendent:	• Co-PI is Assistant Superintendent
USI Office:	• Connection to district activity through Superintendent and Associate Superintendent
Community Key Personnel:	• Cooperation with Parent Education Unit to disseminate information about LA-SI
Teacher Leaders:	• Nine Resource Teachers

Partnerships

Other Key Initiatives:	• California Association of Systemic Initiatives (CASI) holds two to three general and project director meetings each year to work on common problems with USI, CPMSA, and Local Systemic Initiatives all involved
Community Stakeholders:	• Programs conducted in cooperation with informal education partners such as Descanso Gardens, The Cabrillo Museum, and Natural History Museum as well local governmental and other agencies such as the Park Service, Fish and Game, the BLM, Forest Service,
Higher Education:	• Extensive collaboration with USC and the California Science project on cluster wide problem-based learning • Mathematics and Science Summer Institutes at UCLA • Bridge programs and work with the California Science Project at UCLA as well • Mathematics Institutes in cooperation with CSU Dominiguez Hills • Cooperative projects with CSU Northridge, Pierce Jr. College, and more

Los Angeles USI

Business and Industry:

- DWP and Lawrence/Livermore cooperate to develop programs for LA USD
- Litton Industries prepared to support an Elementary Science Fair, Family Science event

Other Partnerships:

- More than forty agricultural concerns from the National Gardening Association to the Kings County Farm Bureau support our Gardens in Every School endeavor

Policy Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	- Remedial mathematics and science classes in grades 9-12 accepted for graduation
1995-96	- Remedial classes eliminated in G9
1996-97	- Remedial classes eliminated in G10
1997-98	- Remedial classes eliminated in G11
1998-99	- All remedial classes eliminated - Stanford-9 data analyzed, so that appropriate alteration may be made in mathematics and science coursework to fill instructional gaps. Guided inquiry is the applied approach. Promotion and retention to be partly based on Stanford-9 data
1999-00	- No changes reported

Curriculum and Instruction Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	- Adoptions at K-8 schools were based on state adoptions since the state offered textbook money to accompany recommendations in mathematics and science; a few of the state recommended programs engaged students in problem solving and guided inquiry - Adoptions for grades 9-12 in mathematics and science were determined by District textbook review committees
1995-96	- National Council of Teachers of Mathematics (NCTM), Benchmarks, and National Science Education Standards (NSES) adopted along with District standards for mathematics and science - Three year college preparatory integrated mathematics and science programs supported if adopted standards were implemented - Science- Comprehensive programs based on the content, pedagogy, assessment, and professional development standards of the draft version of the National Science Education Standards (NSES) and on Benchmarks for Science Literacy were recommended by the LA- - Science Plus and SEPUP recommended for middle school

	• Math- Comprehensive programs based on NCTM standards for content, pedagogy, assessment, and professional development for recommended Mathland, Quest 2000, and "Investigations" began at the elementary level • At high schools IMP and CPM were two integrated mathematics programs promoted • Textbook committees were established for high school integrated mathematics
1996-97	• College preparatory classes in integrated mathematics and science replace eliminated remedial classes • AP Environmental science introduced along with AP Statistics • Science- NSES, Benchmarks, and District content standards adopted by Board of Education • FOSS, Insights, and STC recommended as best examples of standards-based instruction using guided inquiry • Zubrowski Science recommended and used at middle school to promote inquiry • Preliminary units of Prime Science introduced • Making connections; Issues, Evidence, and You; and Rancho Cucamonga recommended for integrated science in high school • Third year college prep science and AP science promoted • At middle school, Connected Mathematics was introduced because it best exemplified a balance between problem solving, investigations, and basic skills in context of national and District standards
	• Increased use in high school of Integrated Mathematics from McDougal Lytel as remedial courses were phased out
1997-98	• College preparatory mathematics and science classes replace eliminated remedial classes • Kit loan program to expand use of recommended elementary program. • PRIME Science used as recommended standards-based integrated science in middle school • Recommendations for integrated science at high school are expanded to include PRIME Science, Science Probe, and Science Links among others • Math- "open-ended Questions" represented an approach to modify more traditional programs to the more interactive programs recommended at the elementary level
1998-99	• Science anchor activities completed in grades 6-8 that represent essential qualitative and quantitative experiences
1999-00	• No changes reported

Professional Development Policy and Program Changes to Support Teachers During USI Implementation

School Year	Policy Implemented
Before USI	• Eisenhower math and science workshops centered in valley schools without categorical funds • No coherent strategy to connect to standards-based instruction for content, pedagogy, assessment - not to mention standards for professional development
1995-96	• Professional develop was started in FOSS and insights at the elementary level • Professional development offered for SEPUP in middle school • High School used district models from Venice High School and Reseda High School to begin professional development in Integrated Science for G9 and 10 • Leadership Institutes for Phase I schools • Leadership Institutes for recommended curricula • Implementation of school plans • Supporting professional development for recommended curricula MST Centers • Networks within, between, and among school formed to support standards-based instruction • Summer Institutes with partners implemented • Credential upgrades classes conducted

Los Angeles USI

1996-97	• At middle school professionals development was offered for recommended Interactive Mathematics (Glencoe) • Data based on student achievement shapes all professional development • LA-SI Leadership Academy for Phase 2 leads to school plans for professional development • Phase 1 school created second year plan • LA-SI resource teachers contact school to develop a differentiated plan of professional development according to the needs of schools to build capacity • Credential upgrades offered • K-12 cluster and complex programs planned School Plans implemented • Professional development at MST Centers contoured to school needs • Continued expansion of supporting networks within and among schools • Credential upgrades classes continue throughout the year • Summer and off-track institutes conducted with cooperating Ice's • K-12 Cluster and complex programs implemented
1997-98	• Student achievement data shapes all professional development. • Phase 3 Leadership Academy leads to school plans; Phase 1 and 2 create third and second year plans • Other endeavors refined based on achievement
1998-99	•Phase 4 leadership institute leads to school plans; Phase 1, 2, and 3 create fourth, third, and second year plans. •Some networks phased out as implementation is more complete •K-12 cluster and complex planning extended to family math and science
1999-00	•No changes reported

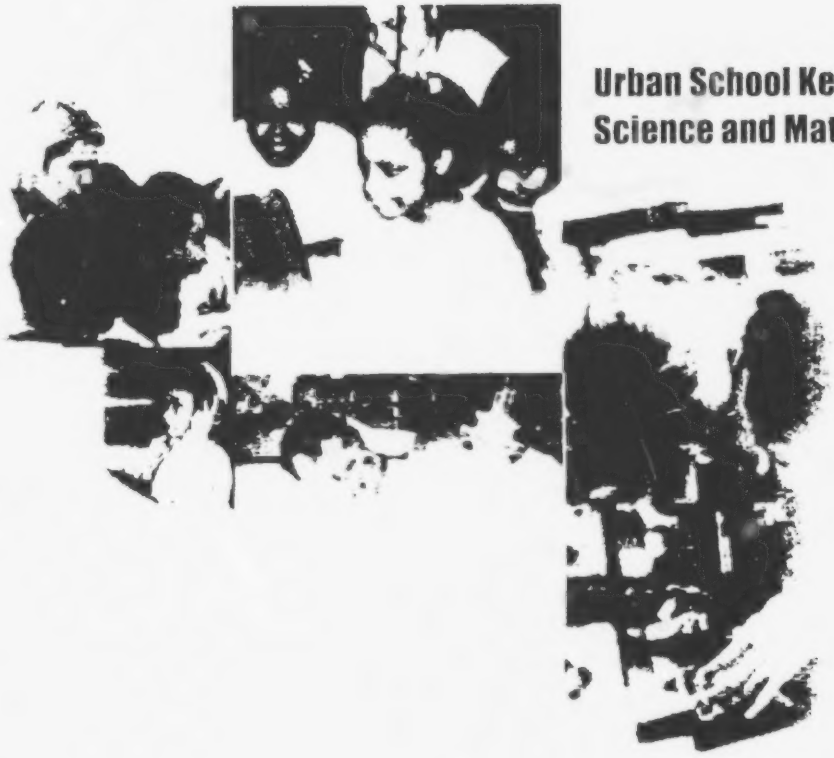
Standards-based Assessment System Changes During USI Implementation

School Year	Policy Implemented
Before USI	
1995-96	•Used enrollment, grades and disaggregated data
1996-97	•Used enrollment, grades and disaggregate data and included sampling using authentic assessment
1997-98	•Recommended programs and Stanford 9 aligned
1998-99	•Introduced STEP Test (a guided constructive response test) for G 3,7,9
1999-00	•No changes reported

School District Progress Report

March 2002

Memphis



Urban School Key Indicators of Science and Mathematics Education: 2001

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Memphis USI

Project Information

USI Project Title : Memphis USI
Cohort: 94 (Sept. 95 - Aug. 00)
USI Web Site: http://www.memphis-schools.k12.tn.us

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♦ USI Schools Math & Sci. Teachers and Students

99-00	Schools	Teachers	Students
K-G5 (Elementary)	104	3,248	57,909
G6-8 (Middle)	23	391	22,731
G9-12 (High)	37	419	29,729
Total	164	4,058	110,369

Project Summary

The Memphis Urban Systemic Initiative (MUSI) uses mathematics and science education as the vehicle for systemwide school improvement by initiating new policies, programs, and expectations in three areas:
(1) academic content and graduation requirements, (2) quality teaching, and (3) resource reallocation and development.
District implementation teams lead large-scale improvement activities in each area, and school-based Mathematics and Science Leadership Teams are assisted by teachers-on-assignment in designing rigorous mathematics and science programs. A comprehensive set of indicators and ambitious yearly benchmarks will allow the district and school to monitor the success of the initiative.

The desired outcomes are consistent with the goals of the Urban Systemic Initiative:
(1) to improve the scientific and mathematical literacy of all students in urban communities; (2) to provide the mathematics and science fundamentals that will permit all students to participate fully in a technological society; and (3) to enable a significantly greater number of the students to pursue careers in mathematics, science, engineering, and technology.

Project Goals

- To increase the percentage of students who successfully complete algebra I, geometry, algebra II, physical science, biology, and chemistry or physics upon graduation.
- To increase the percentage of teachers using open-ended activities, student projects, performance standards, and student portfolios to assess student progress and inform classroom instruction.
- To increase the number of mathematics and science classes in which problem solving and inquiry are emphasized, that use cooperative learning groups, and in which at least 50 percent of instructional time is devoted to hands-on manipulative activities or nontraditional instruction.
- To increase use of computers, calculators, and other technologies for analyzing data, gathering and organizing information, increasing content knowledge, and demonstrating what has been learned.
- To eliminate disparities in resource distribution across the school district.
- To eliminate disparities in mathematics and science achievement between African American and white students.
- To increase the proportion of African American students in the total number of students enrolling in and passing algebra I and physical science in the eighth grade and physics and calculus in high school.

Selected School Indicators (District Average)

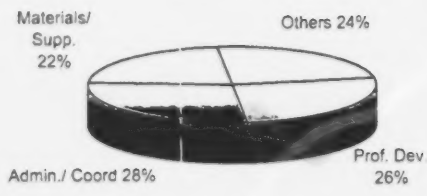
	94-95	99-00	Change
%Special Ed.	13.1%	12.0%	-
%LEP	0.9%	1.7%	+0.8PP
%FRL	65.0%	69.9%	+4.9PP
%Daily Ave. Atten.	91.8%	92.8%	+1.0 PP
%Average Retained	-	9.3%	-
%Drop-Out	11.0%	-	-
%Mobility	-	73.0%	-
Per Pupil Cost ($)	$4,379	$5,435	+24.1%
Num of Students Per Computer	18	8	-
% Classrooms Internet Access	<1%	100%	100%
Average Class Size	-	21	-

(-) Data Missing PP: Percentage Points

District and USI Fund Utilization (SY 1999-00)

	District	USI
Prof. Dev.	29%	26%
Admin./Coord.	18%	28%
Materials/Supp.	31%	22%
Others	22%	24%
Total	100%	100%

USI Funds %



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Student Demographics (SY 1999-00)

District Total:	115,427	
USI Schools:	110,369	96%

♦ Race/Ethnicity

	94-95	99-00	%	% Change
Ame. Ind./Ala. Nat.	0	59	0.1%	.
Asian/P. Islander	0	1,346	1.2%	.
Black	87,668	99,394	86.1%	+13.4%
Hispanic	0	1,775	1.5%	.
White	18,924	12,853	11.1%	-32.1%
Other	0	0	0.0%	.
Total	106,592	115,427		+8.3%
URM Total	87,668	101,228	87.7%	+15.5%

URM: Underrepresented Minority students.

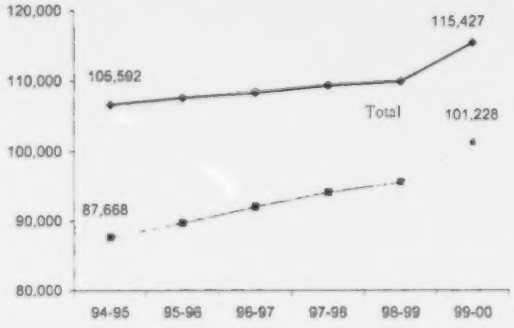
♦ Gender

Male	53,909	58,333	50.5%	+8.2%
Female	52,683	57,094	49.5%	+8.4%

♦ Grade

K-G5	54,197	59,596	51.6%	+10.0%
G6-8	23,897	26,046	22.6%	+9.0%
G9-12	25,217	26,787	23.2%	+6.2%
Ungraded	3,281	2,998	2.6%	-8.6%

♦ District-Wide Student Demographic Trends



12th Grade Graduates

	94-95	99-00	Change
Total 12th Grade	4,812	5,649	+17%
Earned a Diploma	4,331	4,183	-3%
% Earned Diploma	90%	74%	-16 PP

% Earned Diploma

College Entrance

	94-95	99-00	Change
2 Yr College	.	.	.
4 Yr College	.	.	.
Other Post-Secon.	.	.	.
Total C. E.	.	.	.
% C. E./Earned Dip.	.	.	.

% College Entrance

High School Graduation Requirements SY 99-00

- ♦ Mathematics
  - Three units including Algebra I
  - Successful completion of the TCAP math subtest
- ♦ Science
  - Three units including at least one life science and one physical science
- ♦ Other
  - Successful completion of the TCAP reading subtest either SAT, ACT, or Work Keys

(·) Data Missing PP: Percentage Points

Math and Science Teachers & Certification

♦ Mathematics (G6-12)

		98-99	99-00	Change
G6-8	Teachers	519	531	+2%
	Certified	·	·	·
	% Cert.	·	·	·
G9-12	Teachers	224	240	+7%
	Certified	·	170	·
	% Cert.	·	70.8%	·
Total	Teachers	743	771	+4%
	Certified	·	·	·
	% Cert.	·	·	·

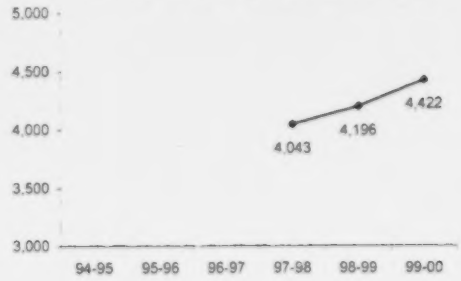
♦ Science (G6-12)

		98-99	99-00	Change
G6-8	Teachers	514	529	+3%
	Certified	·	·	·
	% Cert.	·	·	·
G9-12	Teachers	204	219	+7%
	Certified	·	165	·
	% Cert.	·	75.3%	·
Total	Teachers	718	748	+4%
	Certified	·	·	·
	% Cert.	·	·	·

♦ Math and Science (K-G5)

		98-99	99-00	Change
K-G5	Teachers	2,735	2,903	+6%

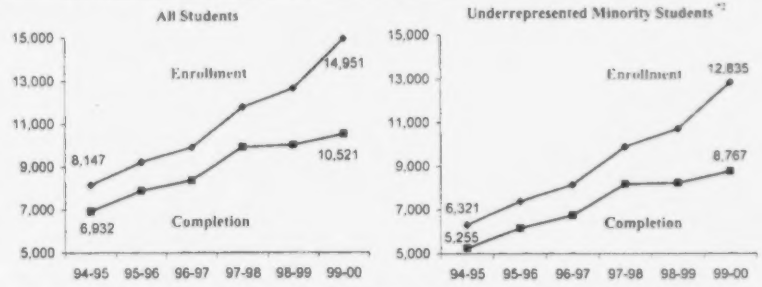
Total Number of Math and Sci. Teachers (K-G12)



Mathematics and Science Enrollment & Completion Trends/ All vs. URM

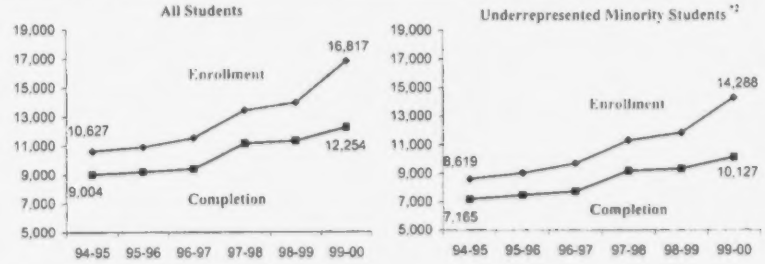
G 9-12 Mathematics Gate-Keeping Courses (Algebra II, Geo., and Calculus)

		94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		21,154	25,595	25,754	25,310	25,038	26,787
All Students	Enrollment	8,147	9,229	9,915	11,766	12,649	14,951
	Completion *1	6,932	7,901	8,373	9,924	10,023	10,521
	% Enroll/ G9-12	39%	36%	38%	46%	51%	56%
URM *2	Enrollment	6,321	7,377	8,156	9,883	10,720	12,835
	Completion *1	5,255	6,169	6,748	8,181	8,231	8,767
	% Enroll/ G9-12	31%	35%	37%	46%	50%	56%



G 9-12 Science Gate-Keeping Courses (Biology 1, Chem. 1, and Physics 1)

		94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		21,154	25,595	25,754	25,310	25,038	26,787
All Students	Enrollment	10,627	10,895	11,530	13,431	13,959	16,817
	Completion *1	9,004	9,208	9,412	11,155	11,326	12,254
	% Enroll/ G9-12	50%	43%	45%	53%	56%	63%
URM *2	Enrollment	8,619	9,005	9,684	11,295	11,822	14,288
	Completion *1	7,165	7,457	7,710	9,162	9,330	10,127
	% Enroll/ G9-12	42%	42%	44%	52%	55%	62%



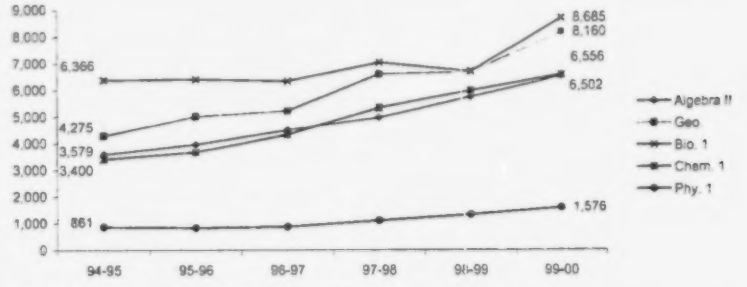
*1 Successful completion: grade 'D' or above.

*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Mathematics and Science Enrollment & Completion Trends By Subject

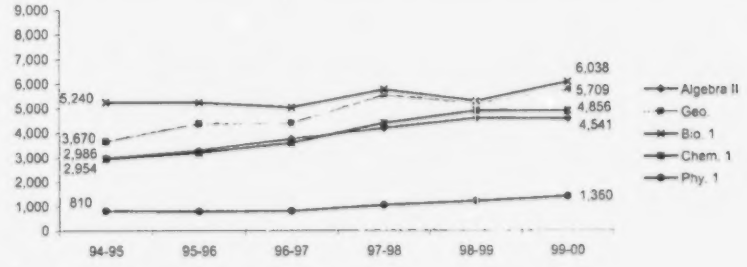
G 9-12 Course Enrollment (All Students)

	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
94-95	3,579	4,275	293	8,147	6,366	3,400	861	10,627
95-96	3,958	5,013	258	9,229	6,401	3,667	827	10,895
96-97	4,485	5,210	220	9,915	6,331	4,331	868	11,530
97-98	4,955	6,583	228	11,766	7,020	5,324	1,087	13,431
98-99	5,728	6,663	258	12,649	6,680	5,970	1,309	13,959
99-00	6,502	8,160	289	14,951	8,685	6,556	1,576	16,817



G 9-12 Course Completion *1 (All Students)

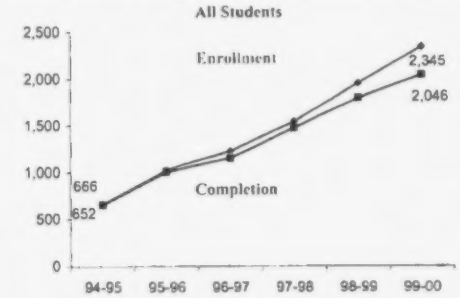
	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
94-95	2,986	3,670	276	6,932	5,240	2,954	810	9,004
95-96	3,282	4,374	245	7,901	5,232	3,195	781	9,208
96-97	3,760	4,399	214	8,373	5,018	3,603	791	9,412
97-98	4,178	5,522	224	9,924	5,747	4,385	1,023	11,155
98-99	4,577	5,196	250	10,023	5,269	4,872	1,185	11,326
99-00	4,541	5,709	271	10,521	6,038	4,856	1,360	12,254

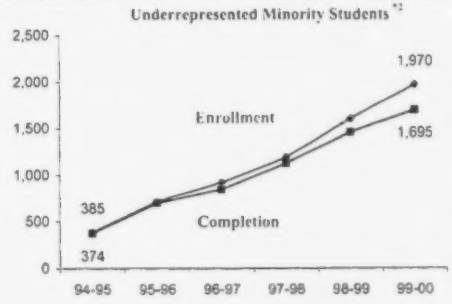


*3 Calculus not represented on graph.

Algebra I or Above in 8th Grade Enrollment & Completion Trends/ All vs. URM

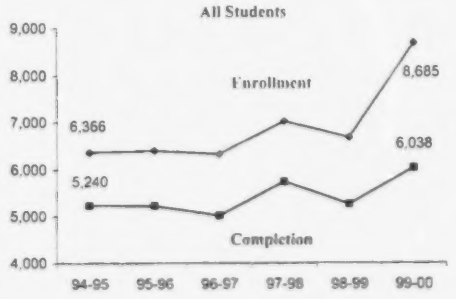
		94-95	95-96	96-97	97-98	98-99	99-00
Total G 8 Population		7,805	7,992	7,290	7,343	7,548	8,313
All Students	Enrollment	666	1,031	1,231	1,543	1,954	2,345
	Completion *1	652	1,009	1,155	1,477	1,797	2,046
	% Enroll/ G8	9%	13%	17%	21%	26%	28%
URM *2	Enrollment	385	717	923	1,192	1,604	1,970
	Completion *1	374	699	848	1,130	1,460	1,695
	% Enroll/ G8	6%	11%	15%	19%	25%	27%

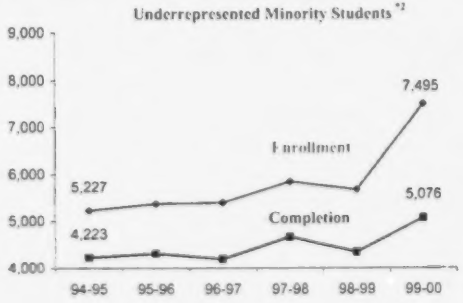




Biology Enrollment & Completion Trends/ All vs. URM

		94-95	95-96	96-97	97-98	98-99	99-00
All Students	Enrollment	6,366	6,401	6,331	7,020	6,680	8,685
	Completion *1	5,240	5,232	5,018	5,747	5,269	6,038
URM *2	Enrollment	5,227	5,374	5,405	5,858	5,680	7,495
	Completion *1	4,223	4,312	4,194	4,674	4,348	5,076





*1 Successful completion: grade 'D' or above.

*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic

(.) Data Missing

Professional Development Participation of Teachers Teaching Mathematics and/or Science

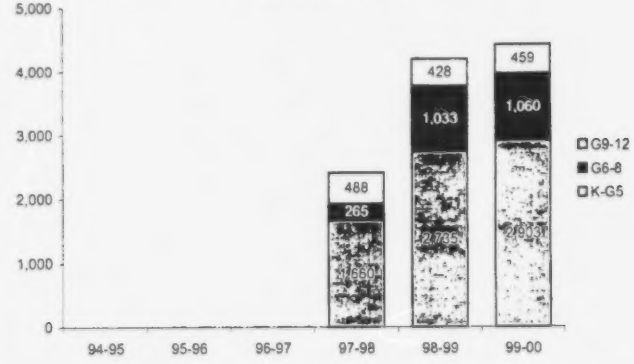
Total Number Teachers by Subject (G6-12)

	94-95	95-96	96-97	97-98	98-99	99-00
Mathematics	.	.	.	390	743	771
Science	.	.	.	363	718	748

Total Number of Teachers Participating in PD by Grade Level

Teachers	94-95	95-96	96-97	97-98	98-99	99-00
Total K-G5	.	.	.	3,310	2,735	2,903
# K-G5 Participated	.	.	.	1,660	2,735	2,903
% K-G5 Participated	.	.	.	50%	100%	100%
Total G6-8	.	.	.	265	1,033	1,060
# G6-8 Participated	.	.	.	265	1,033	1,060
% G6-8 Participated	.	.	.	100%	100%	100%
Total G9-12	.	.	.	488	428	459
# G9-12 Participated	.	.	.	488	428	459
% G9-12 Participated	.	.	.	100%	100%	100%

Number of Teachers Participating in Professional Development by Grade Level Taught



Number of Teachers by Duration of Professional Development

	94-95	95-96	96-97	97-98	98-99	99-00
1-59 Hours	.	.	.	147	1,344	3,537
60-119 Hours	.	.	.	1,514	1,524	663
120-200 Hours	.	.	.	583	1,108	222
More than 200 Hours	.	.	.	169	220	0

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District Assessment Test Administered

♦ Mathematics

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name						
Scoring						
Grade						
Type						

♦ Science

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name						
Scoring						
Grade						
Type						

State Assessment Test Administered

♦ Mathematics

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	TCAP	TCAP	TCAP	TCAP	TCAP	TCAP
Scoring	PL	PL	PL	PL	PL	PL
Grade	G3-8	G3-8	G3-8	G3-8	G3-8	G3-8
Type	NRT, CRT, PL	NRT, CRT, PL	NRT, CRT, PL	NRT, CRT, PL	NRT, CRT, PL	NRT, CRT, PL

♦ Science

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	TCAP	TCAP	TCAP	TCAP	TCAP	TCAP
Scoring	PL	PL	PL	PL	PL	PL
Grade	G3-8	G3-8	G3-8	G3-8	G3-8	G3-8
Type	NRT, CRT, PL	NRT, CRT, PL	NRT, CRT, PL	NRT, CRT, PL	NRT, CRT, PL	NRT, CRT, PL

* TCAP: Tennessee Comprehensive Assessment Program

PC: Percentile SN: Stanine PL: Performance Level

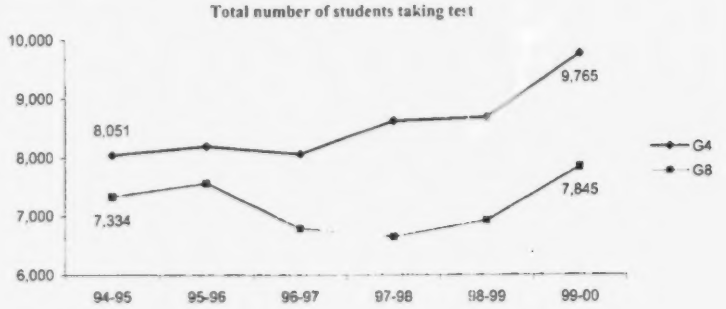
PF: Pass/Fail SS: Scaled Score OT: Other

NRT: Norm-Referenced Test CRT: Criterion-Referenced Test

State Assessment Test-Taker Trends TCAP

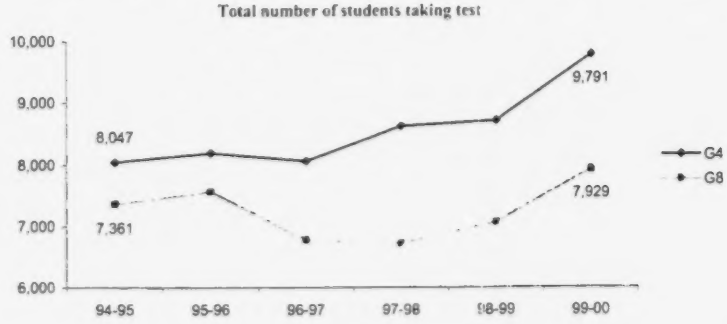
♦ Mathematics

# of Test-takers	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4	8,051	8,195	8,065	8,620	8,684	9,765
Grade 8	7,334	7,563	6,786	6,647	6,923	7,845
Grade 10						



♦ Science

# of Test-takers	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4	8,047	8,195	8,065	8,625	8,714	9,791
Grade 8	7,361	7,563	6,786	6,731	7,071	7,929
Grade 10						



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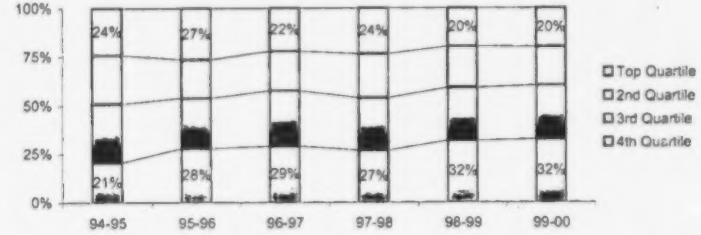
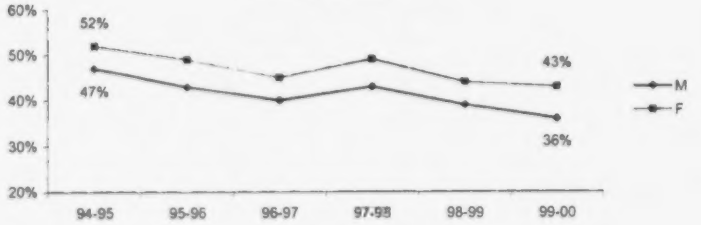
State Assessment Test Result Trends TCAP - Mathematics

♦ **Grade 4**

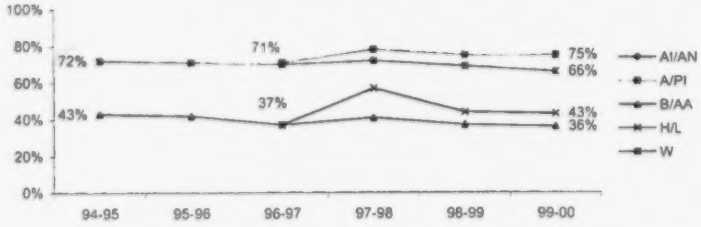
Quartiles	94-95	95-96	96-97	97-98	98-99	99-00
Top Quartile	24%	27%	22%	24%	20%	20%
2nd Quartile	25%	19%	20%	22%	21%	20%
3rd Quartile	30%	26%	29%	27%	27%	28%
4th Quartile	21%	28%	29%	27%	32%	32%
Total num of students	8,051	8,195	8,065	8,620	8,684	9,765



% Passing by Gender



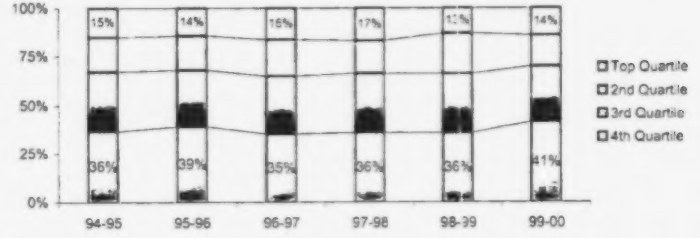
% Passing by Race/Ethnicity *1



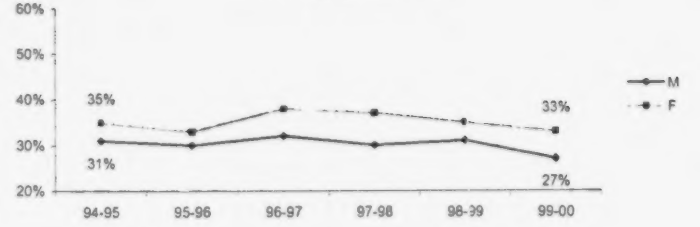
State Assessment Test Result Trends TCAP - Mathematics

♦ **Grade 8**

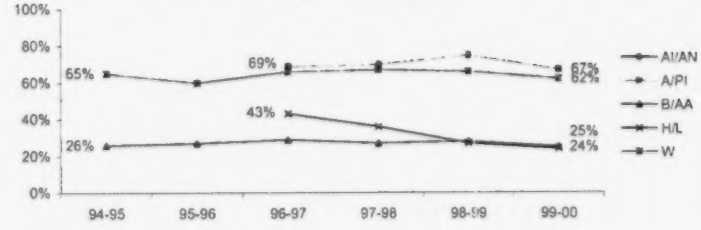
Quartiles	94-95	95-96	96-97	97-98	98-99	99-00
Top Quartile	15%	14%	16%	17%	13%	14%
2nd Quartile	18%	18%	19%	16%	20%	16%
3rd Quartile	31%	29%	30%	31%	31%	29%
4th Quartile	36%	39%	35%	36%	36%	41%
Total num of students	7,334	7,563	6,786	6,647	6,923	7,845



% Passing by Gender



% Passing by Race/Ethnicity *1



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as Top Quartile + 2nd Quartile

*1 % Passing not presented for sample size less than 5

257

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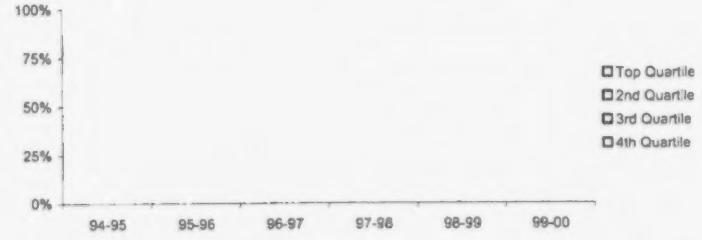
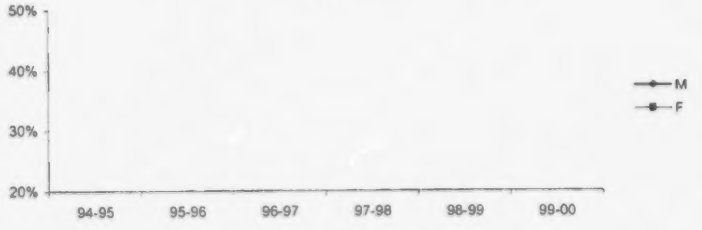
State Assessment Test Result Trends TCAP - Mathematics

♦ **Grade 10**

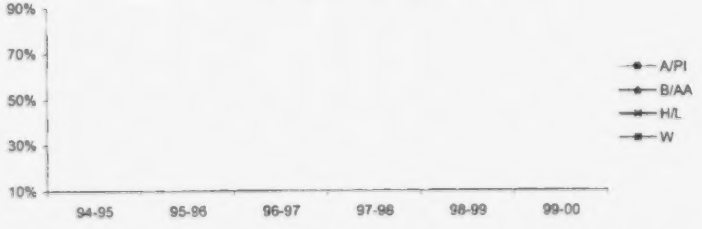
Quartiles	94-95	95-96	96-97	97-98	98-99	99-00
Top Quartile						
2nd Quartile						
3rd Quartile						
4th Quartile						
Total num of students						



% Passing by Gender



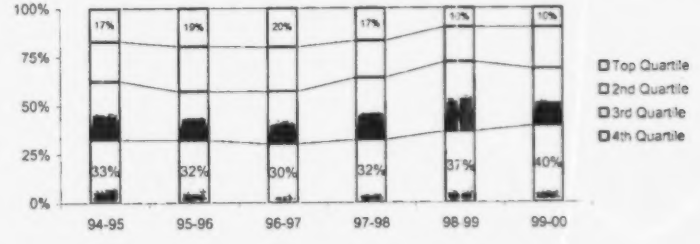
% Passing by Race/Ethnicity



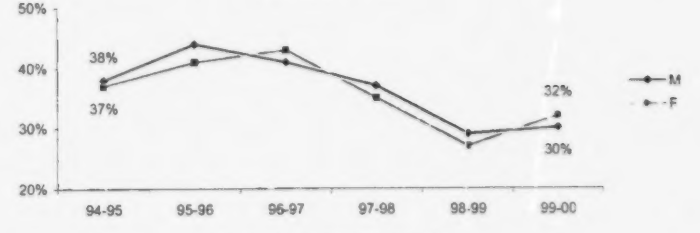
State Assessment Test Result Trends TCAP - Science

♦ **Grade 4**

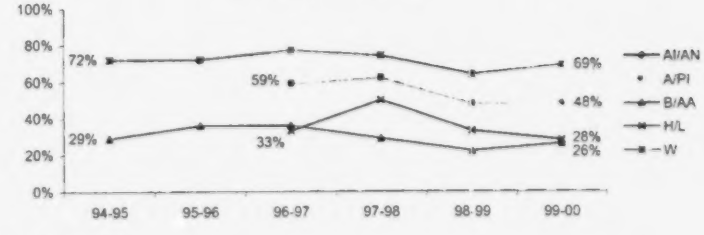
Quartiles	94-95	95-96	96-97	97-98	98-99	99-00
Top Quartile	17%	19%	20%	17%	10%	10%
2nd Quartile	21%	23%	23%	19%	18%	21%
3rd Quartile	30%	25%	27%	32%	36%	29%
4th Quartile	33%	32%	30%	32%	37%	40%
Total num of students	8,047	8,195	8,065	8,625	8,714	9,791



% Passing by Gender



% Passing by Race/Ethnicity [*1]



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as Top Quartile + 2nd Quartile

[*1] % Passing not presented for sample size less than 5

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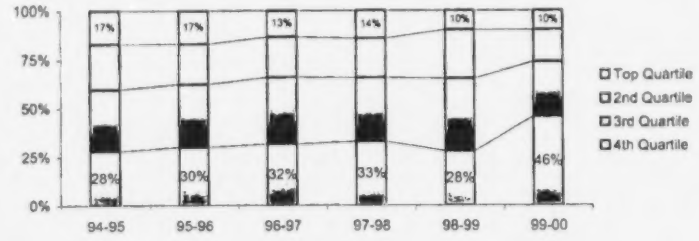
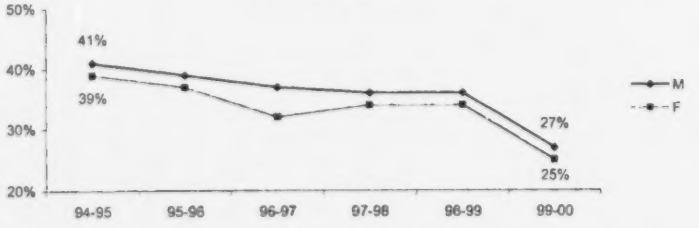
State Assessment Test Result Trends TCAP - Science

◆ **Grade 8**

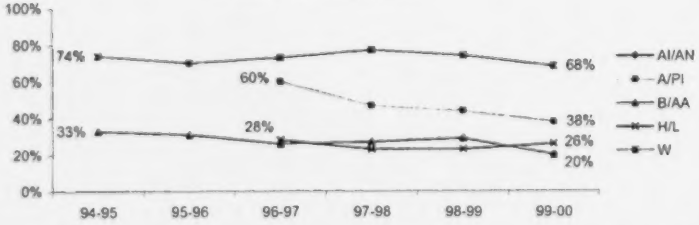
Quartiles	94-95	95-96	96-97	97-98	98-99	99-00
Top Quartile	17%	17%	13%	14%	10%	10%
2nd Quartile	23%	21%	21%	20%	25%	17%
3rd Quartile	32%	32%	34%	33%	37%	28%
4th Quartile	28%	30%	32%	33%	28%	46%
Total num of students	7,361	7,563	6,786	6,731	7,071	7,929



% Passing by Gender



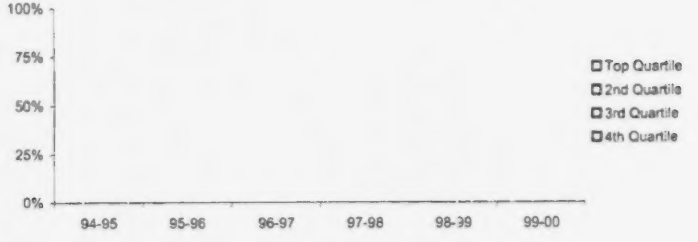
% Passing by Race/Ethnicity *1



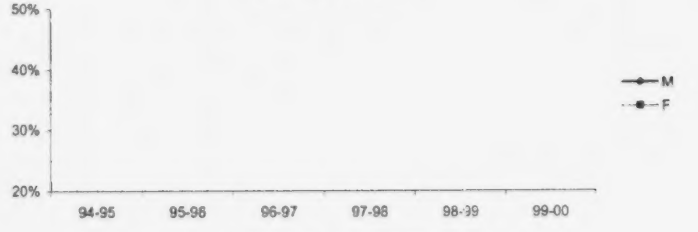
State Assessment Test Result Trends TCAP - Science

◆ **Grade 10**

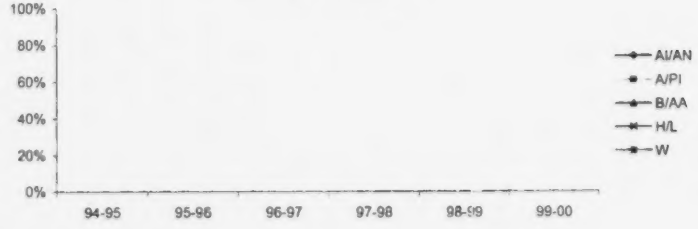
Quartiles	94-95	95-96	96-97	97-98	98-99	99-00
Top Quartile						
2nd Quartile						
3rd Quartile						
4th Quartile						
Total num of students						



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as Top Quartile + 2nd Quartile

*1 % Passing not presented for sample size less than 5

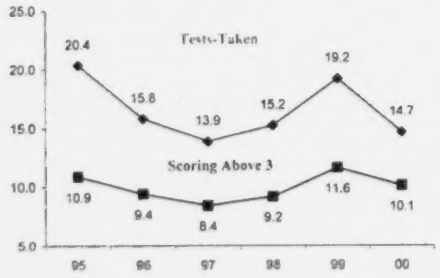
Memphis USI

AP Mathematics Test Result Trends ♦ **AP Mathematics (Calculus AB, Calculus BC, & Statistics)**

♦ **AP Mathematics - Total Number of Tests Taken**

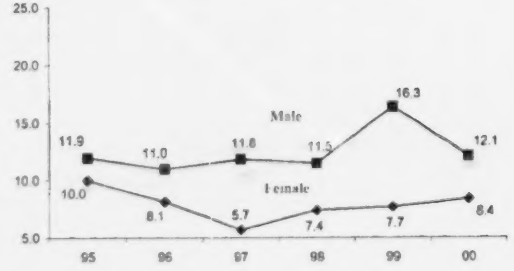
		95	96	97	98	99	00
Total Num of 11th & 12th		10,311	10,612	10,798	10,766	10,768	11,188
Tests Taken	Calc. AB	178	139	113	113	141	103
	Calc. BC	32	29	37	29	42	41
	Statistics	0	0	0	22	24	20
	Total	**210**	**168**	**150**	**164**	**207**	**164**
Num of tests-taken/1,000 stu.		20.4	15.8	13.9	15.2	19.2	14.7
Scoring Above 3		112	100	91	99	125	113
Num of Above 3/ 1,000 students		10.9	9.4	8.4	9.2	11.6	10.1

Number of tests taken and scoring above 3 per 1,000 students



♦ **AP Mathematics - Number of Students Scoring Above 3 By Gender per 1,000 Students**

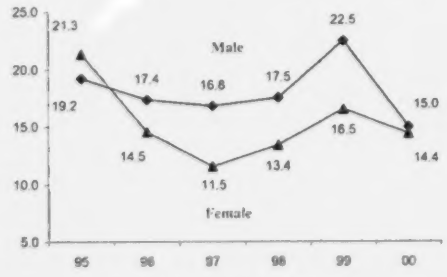
Score Above 3 per 1,000		95	96	97	98	99	00
	Male	11.9	11.0	11.8	11.5	16.3	12.1
	Female	10.0	8.1	5.7	7.4	7.7	8.4



♦ **AP Mathematics - Number of Tests Taken By Gender Per 1,000 Students**

Tests Taken per 1,000		95	96	97	98	99	00
	Male	19.2	17.4	16.8	17.5	22.5	15.0
	Female	21.3	14.5	11.5	13.4	16.5	14.4

Numb[illegible] of tests taken per 1,000 students by Gender



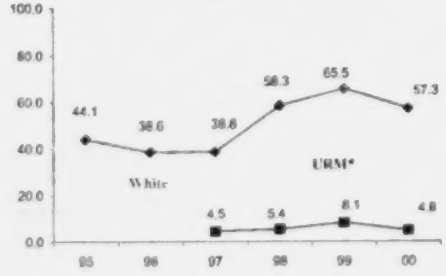
♦ **AP Mathematics - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students** [*1]

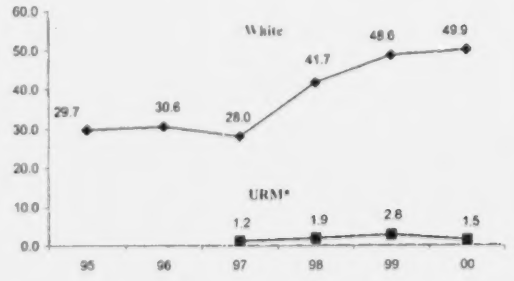
	95	96	97	98	99	00
AI/AN	.	.	0.0	0.0	500.0	0.0
A/PI	.	.	206.5	126.1	116.8	88.8
B/AA	2.9	2.0	1.1	1.7	2.3	1.3
H/L	.	.	52.6	43.5	53.6	26.0
W	29.7	30.6	28.0	41.7	48.6	49.9

♦ **AP Mathematics - Number of Tests Taken By Race/Ethnicity Per 1,000 Students** [*1]

	95	96	97	98	99	00
AI/AN	.	.	0.0	0.0	500.0	0.0
A/PI	.	.	271.7	176.5	153.3	118.3
B/AA	9.8	5.8	4.3	5.1	7.5	4.6
H/L	.	.	105.3	65.2	89.3	26.0
W	44.1	38.6	38.8	58.3	65.5	57.3

Number of tests taken per 1,000 students by Race/Ethnicity





AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented
(.) Data missing

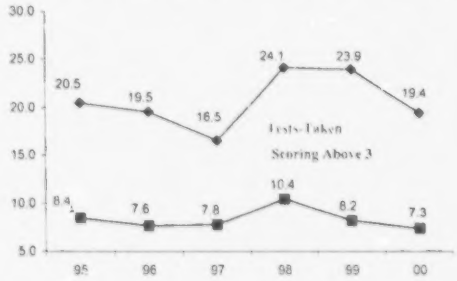
*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

AP Science Test Result Trends • **AP Science (Biology, Chemistry, Environ. Sci., Phy. B, Phy. C Mech., & Phy. C Elec.)**

• AP Science - Total Number of Tests Taken

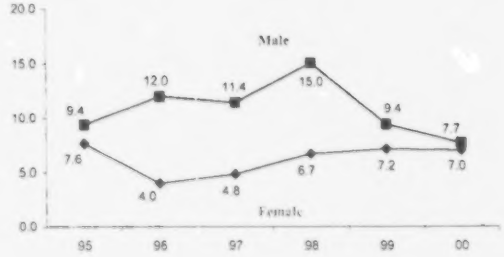
		95	96	97	98	99	00
Total Num of 11th & 12th students		10,311	10,612	10,798	10,766	10,768	11,188
Tests Taken	Biology	78	82	67	116	120	97
	Chem.	59	76	53	71	60	80
	Enviro. Sci.	0	0	0	0	0	0
	Physics B	33	15	25	37	39	8
	Ph. C Mech.	21	18	17	18	20	16
	Ph. C Elec.	20	16	16	17	18	16
	Total	**211**	**207**	**178**	**259**	**257**	**217**
Num of tests-taken/1,000 stu.		20.5	19.5	16.5	24.1	23.9	19.4
Scoring Above 3		87	81	84	112	88	82
Num of Above 3/ 1,000 students		8.4	7.6	7.8	10.4	8.2	7.3

Number of tests taken and scoring above 3 per 1,000 students



• AP Science - Number of Students Scoring Above 3 By Gender per 1,000 Students

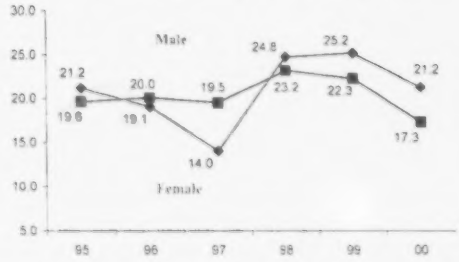
		95	96	97	98	99	00
Score Above 3 per 1,000	Male	9.4	12.0	11.4	15.0	9.4	7.7
	Female	7.6	4.0	4.8	6.7	7.2	7.0



• AP Science - Number of Tests Taken By Gender Per 1,000 Students

		95	96	97	98	99	00
Tests Taken per 1,000	Male	19.6	20.0	19.5	23.2	22.3	17.3
	Female	21.2	19.1	14.0	24.8	25.2	21.2

Number of tests taken per 1,000 students by Gender



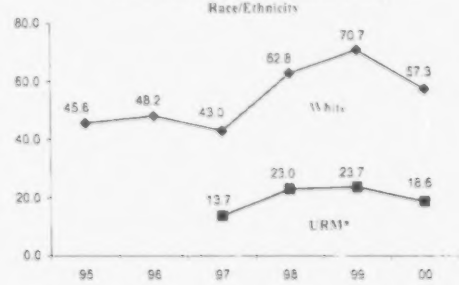
• AP Science - Number of Students Scoring Above 3 By Race/Ethnicity Per 1,000 Students [*1]

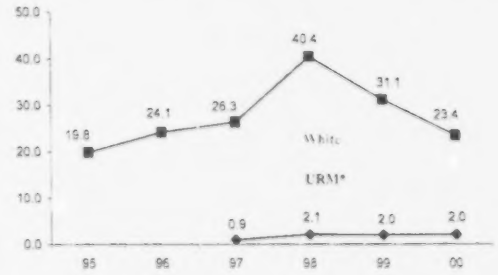
	95	96	97	98	99	00
AI/AN	.	.	0.0	0.0	0.0	0.0
A/PI	.	.	228.3	184.9	94.9	118.3
B/AA	2.0	0.7	0.8	1.8	1.8	1.8
H/L	.	.	52.6	65.2	35.7	26.0
W	19.8	24.1	26.3	40.4	31.1	23.4

• AP Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [*1]

	95	96	97	98	99	00
AI/AN	.	.	0.0	0.0	500.0	0.0
A/PI	.	.	293.5	260.5	153.3	165.7
B/AA	18.6	16.9	13.7	22.8	23.4	18.6
H/L	.	.	52.6	65.2	53.6	26.0
W	45.6	48.2	43.0	62.8	70.7	57.3

Number of tests taken per 1,000 students by Race/Ethnicity





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[*1] "Other" category not presented
(.) Data missing

*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

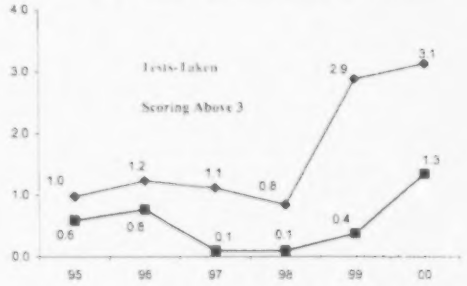
AP Computer Science Test Result Trends

♦ AP Computer Science (Computer Science A & AB)

♦ AP Computer Science - Total Number of Tests Taken

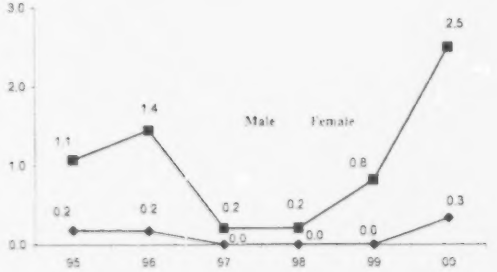
		95	96	97	98	99	00
Total Num of 11th & 12th students		10,311	10,612	10,798	10,766	10,768	11,188
Tests Taken	Comp. Sci A	6	13	8	7	22	35
	Comp. Sci. AB	4	0	4	2	9	0
	Total	**10**	**13**	**12**	**9**	**31**	**35**
Num of tests-taken/1,000 stu.		1.0	1.2	1.1	0.8	2.9	3.1
Scoring Above 3		6	8	1	1	4	15
Num of Above 3/ 1,000 students		0.6	0.8	0.1	0.1	0.4	1.3

Number of tests taken and scoring above 3 per 1,000 students



♦ AP Computer Science - Number of Students Scoring Above 3 By Gender per 1,000 Students

		95	96	97	98	99	00
Score Above 3 per 1,000	Male	1.1	1.4	0.2	0.2	0.8	2.5
	Female	0.2	0.2	0.0	0.0	0.0	0.3

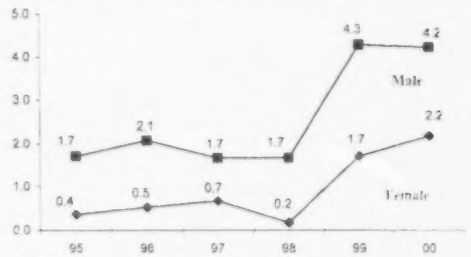


♦ AP Computer Science - Number of Tests Taken By Gender

Per 1,000 Students

		95	96	97	98	99	00
Tests Taken per 1,000	Male	1.7	2.1	1.7	1.7	4.3	4.2
	Female	0.4	0.5	0.7	0.2	1.7	2.2

Number of tests taken per 1,000 students by Gender



♦ AP Computer Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [*1]

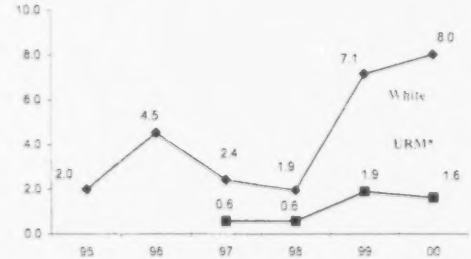
	95	96	97	98	99	00
AI/AN	.	.	0.0	0.0	0.0	0.0
A/PI	.	.	0.0	0.0	7.3	11.8
B/AA	0.4	0.2	0.0	0.0	0.0	0.2
H/L	.	.	0.0	0.0	0.0	0.0
W	1.0	3.0	0.6	0.6	1.9	6.2

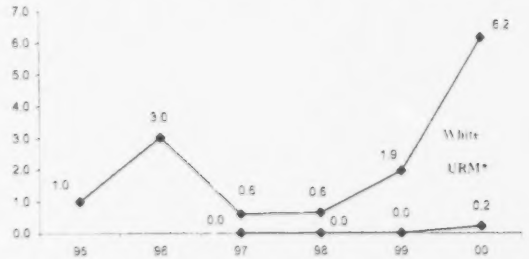
♦ AP Computer Science - Number of Tests Taken By Race/Ethnicity

Per 1,000 Students [*1]

	95	96	97	98	99	00
AI/AN	.	.	0.0	0.0	0.0	0.0
A/PI	.	.	10.9	8.4	7.3	29.6
B/AA	0.5	0.5	0.6	0.6	1.9	1.6
H/L	.	.	0.0	0.0	0.0	0.0
W	2.0	4.5	2.4	1.9	7.1	8.0

Number of tests taken per 1,000 students by Race/Ethnicity





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B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented
( ) Data missing

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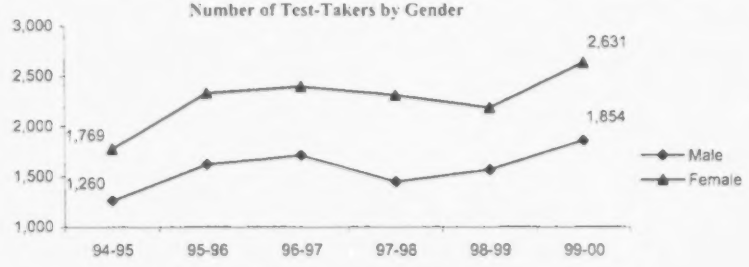
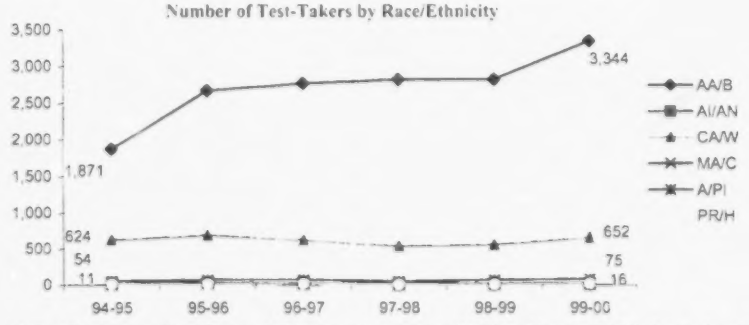
Memphis USI

ACT Test-Takers

♦ **Number of Test-Takers**

		94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		4,812	4,834	5,139	5,081	5,033	5,468
Test-Takers		3,029	3,945	4,100	3,754	3,757	4,499
Num of Test-Takers/1,000 Stu.		629	816	798	739	746	823
Gender	Male	1,260	1,618	1,706	1,448	1,567	1,854
	Female	1,769	2,327	2,394	2,306	2,182	2,631
Race/Ethnicity	AA/B	1,871	2,670	2,769	2,821	2,819	3,344
	AI/AN	20	26	22	13	7	9
	CA/W	624	689	625	536	556	652
	MA/C	12	25	23	17	15	20
	A/PI	54	72	70	49	67	75
	PR/H	11	10	17	7	8	16

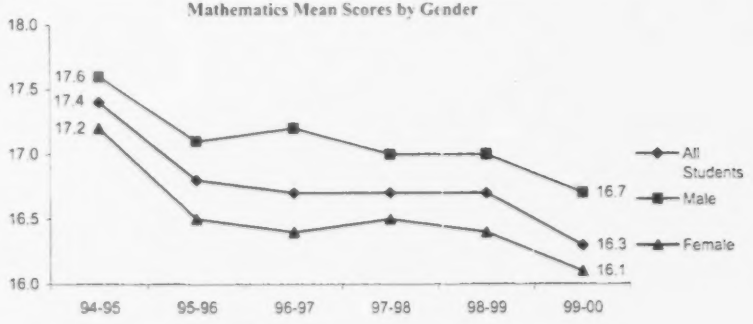


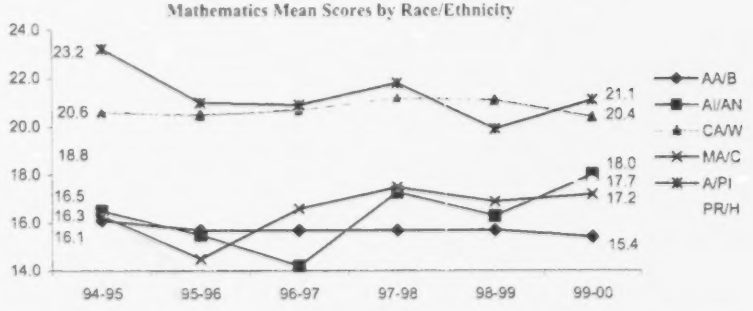


ACT Mathematics Scores

♦ **Mathematics - Mean Score Trends**

		94-95	95-96	96-97	97-98	98-99	99-00
All Students		17.4	16.8	16.7	16.7	16.7	16.3
Gender	Male	17.6	17.1	17.2	17.0	17.0	16.7
	Female	17.2	16.5	16.4	16.5	16.4	16.1
Race/Ethnicity	AA/B	16.1	15.7	15.7	15.7	15.7	15.4
	AI/AN	16.5	15.5	14.2	17.3	16.3	18.0
	CA/W	20.6	20.5	20.7	21.2	21.1	20.4
	MA/C	16.3	14.5	16.6	17.5	16.9	17.2
	A/PI	23.2	21.0	20.9	21.8	19.9	21.1
	PR/H	18.8	19.0	19.7	19.7	17.8	17.7





AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispa

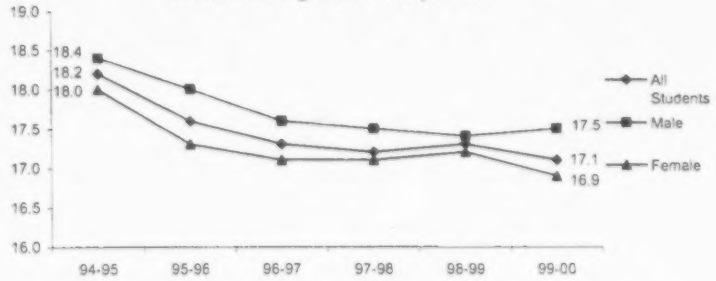
Memphis USI

ACT Science Reasoning Scores

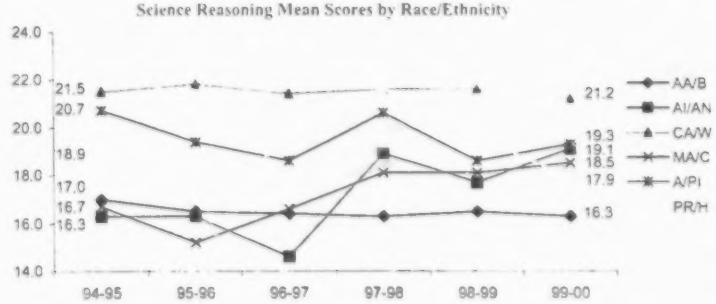
♦ Science Reasoning - Mean Score Trends

		94-95	95-96	96-97	97-98	98-99	99-00
All Students		18.2	17.6	17.3	17.2	17.3	17.1
Gender	Male	18.4	18.0	17.6	17.5	17.4	17.5
	Female	18.0	17.3	17.1	17.1	17.2	16.9
Race/Ethnicity	AA/B	17.0	16.5	16.4	16.3	16.5	16.3
	AI/AN	16.3	16.3	14.6	18.9	17.7	19.1
	CA/W	21.5	21.8	21.4	21.6	21.6	21.2
	MA/C	16.7	15.2	16.6	18.1	18.1	18.5
	A/PI	20.7	19.4	18.6	20.6	18.6	19.3
	PR/H	18.9	17.5	19.2	21.6	19.6	17.9

Science Reasoning Mean Scores by Gender



Science Reasoning Mean Scores by Race/Ethnicity



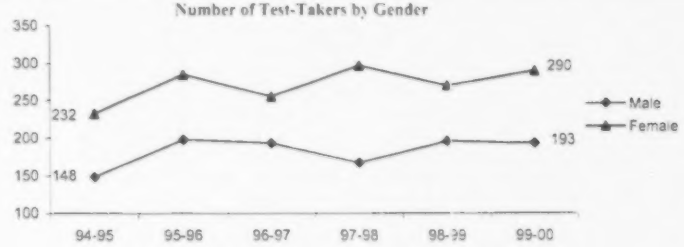
AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C. Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.

SAT Test-Takers

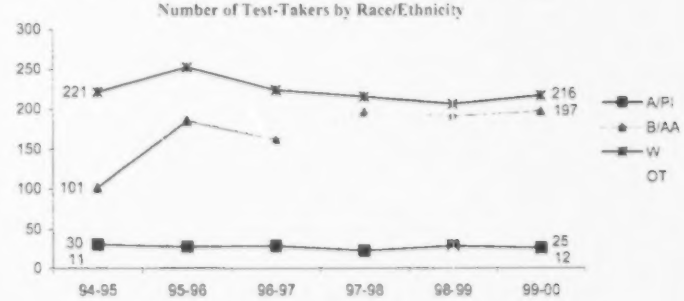
♦ Number of Test-Takers

		94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		4,812	4,834	5,139	5,081	5,033	5,468
Test-Takers		380	483	448	464	466	483
Num of Test-Takers/1,000 Stu		79	100	87	91	93	88
Gender	Male	148	198	193	167	196	193
	Female	232	285	255	297	270	290
Race/Ethnicity	AI/AN *1	-	-	-	-	-	-
	A/PI	30	27	28	22	28	25
	B/AA	101	185	162	196	191	197
	H/L *1	-	-	6	-	8	-
	W	221	252	223	215	206	216
	OT	11	10	10	7	19	12

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

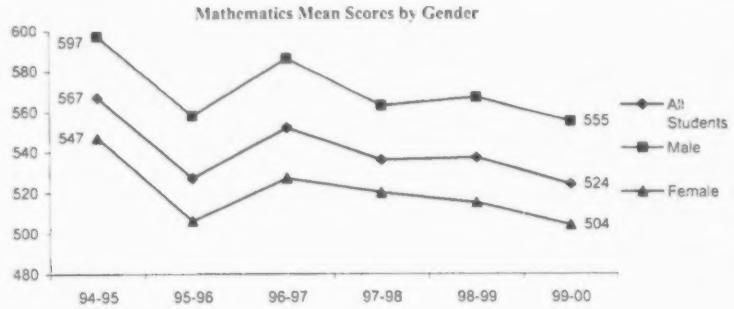
*1 Number of Test-Takers less than 5 not presented on graph

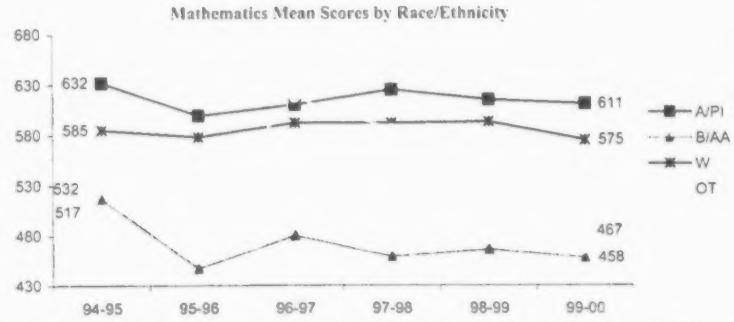
Memphis USI

SAT Mathematics Scores

♦ **Mathematics - Mean Score Trends**

		94-95	95-96	96-97	97-98	98-99	99-00
All Students		567	527	552	536	537	524
Gender	Male	597	558	586	563	567	555
	Female	547	506	527	520	515	504
Race/Ethnicity	AI/AN [*1]	-	-	-	-	-	-
	A/PI	632	599	610	625	615	611
	B/AA	517	447	480	459	466	458
	H/L [*1]	-	-	680	-	546	-
	W	585	578	592	592	593	575
	OT	532	510	617	586	549	467

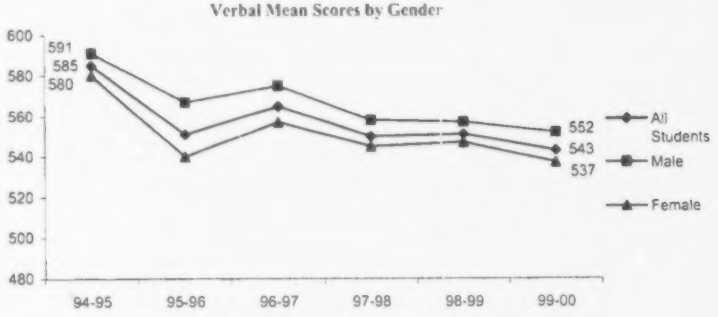


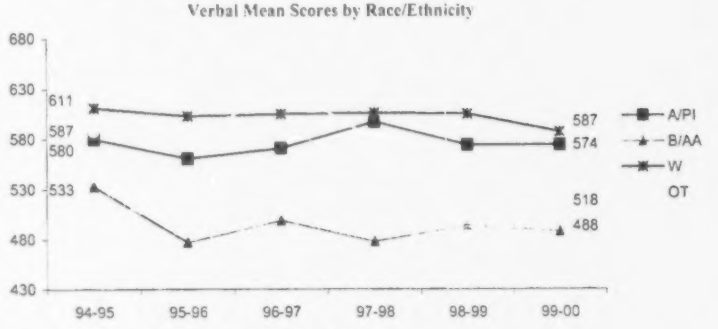


SAT Verbal Scores

♦ **Verbal - Mean Score Trends**

		94-95	95-96	96-97	97-98	98-99	99-00
All Students		585	551	565	550	551	543
Gender	Male	591	567	575	558	557	552
	Female	580	540	557	545	547	537
Race/Ethnicity	AI/AN [*1]	-	-	-	-	-	-
	A/PI	580	561	571	597	574	574
	B/AA	533	477	499	478	494	488
	H/L [*1]	-	-	665	-	583	-
	W	611	603	605	606	605	587
	OT	587	574	635	579	524	518





AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

[*1] Mean score not presented for sample size less than 5

Memphis USI

Cohort/Scale-Up Approach

	95-96	96-97	97-98	98-99	99-00
Number of District Schools*:	*160*	*160*	*160*	160	164
USI Schools**:	53	80	160	160	160
% Schools:	33%	50%	100%	100%	98%

*Core Data Elements 2000-2001; ** K-1 2001

Italics: Data Imputed

Primary Decision Making Body

Standards Curriculum	District
Curriculum/TextBook Adoption	School
Student Assessment	School
Professional Development	District
Resources	District
Teacher Hiring	District
Teacher Contracts	District
Certification & Re-certification	State
Graduation Requirements	State
School-Based Management?	

Policies Promoting Equal Access by All Students in High Quality Education

Student Tracking:
- All low-level math and science courses eliminated

Criteria for Entry into High Level Mathematics and Science Courses:
- G8 students may take physical science and Algebra I for high school credit
- Prerequisite courses: Physics requires Algebra II; Calculus requires 4 lower level courses; AP classes require instructors permission.

Availability of High Level Courses:
- All low level mathematics courses (i.e. Applied Mathematics and Arithmetic 9) were eliminated

Special Education and Bilingual Students:

Policies Impacting the Enrollment of Students in Challenging Math and Science Courses

Attendance :

Guidance:
- All students before entering high school must complete a four year plan articulating their focused program of study

Student Support Systems:
- Students in grades 3-8 who are failing mathematics and science must attend summer school in order to be promoted.
- Saturday Academy
- Science, Technology and Algebra Teams (STAT)
- Algebra and Geometry Camp
- Forensic Science Institute
- Biology Academy
- And other interactive investigations

Others:
- Now, 3 summer programs for students using practical applications of math and science.

Policies Relevant to Curriculum

Framework:
- Tennessee Curriculum Framework

Curriculum:

Curriculum Materials:
- Pacesetter Mathematics (Algebra II, Precalculus); Everyday Mathematics; Connected Mathematics; Mathematics in Context; Full Option Science System (FOSS); Science and Technology for Children; Window on Science; Discover the Wonder; Prentice Hall Geometry; Glencoe Middle School Math, Algebra I, II, Physics; Conceptual Physics; Optical Data; Science Anytime; Scott Foresman Calculus; MacDougal-Little Algebra I; Holt Biology and Chemistry

New Courses Added as a Result of USI:
- Pacesetter Precalculus USI sponsored professional development to certify AP teachers.

Instructional Time:
- Instructional Time is determined primarily at the school level, influenced somewhat by state law (minimum standards for overall instructional time)

Standards-based Curriculum and Instruction

Standards Adopted:
- Tennessee Curriculum Framework
- NCTM for mathematics
- INRC for science

Primary Instructional Strategies:
- Hands-on, inquiry based-instruction kit-based science
- District guidelines: mandate 1 hour a day for math and 1 hour a day for science

% of Students Experiencing Standards-based Mathematics Curricula:	E: 100%
	M: 100%
	H: 100%
% of Students Experiencing Standards-based Science Curricula:	E: 100%
	M: 100%
	H: 100%

E: Elementary School M: Middle School H: High School

Policies Relevant to Teacher Qualifications

Certification:
- Non-certified teachers must complete State of Tennessee licensure requirements within three years of initial employment

Requirement & Hiring Practices
- New hires must either be certified or commit to pursue certification within a specified three-year period

Professional Advancement & Leadership Training:
- Specific number of professional development or inservice hours must be obtained in order to qualify for re-certification

Contract Requirements:
- Teachers must develop and complete a personal professional development plan as part of the district's new teacher evaluation program

Memphis USI

Professional Development Policies and Practices

Time Required or Supported:	• At least 42 hours for math and science • Release time and substitute teachers provided for required professional development
Financial Resources Provided:	• Staff development and the operation and staffing of the Teaching and Learning Academy are funded through the district's General Fund, federal programs and various grants
Alignment to Student Standards:	• All professional development must use "Memphis City Schools Professional Development Standards"
Measurement of Impact:	• Teachers monitored by Instructional Facilitators who use observation to monitor instructional practices
	• Student achievement accounts for 60% of Principal evaluation
Other:	• Administrators and administrative staff are required to participate in USI and school reform professional development
Type and Amount Received by Average Math/Science Teacher:	• Teachers required to participate in a 1 week (E) or 2 week (M, H) mathematics/science institute that provided training in curriculum implementation, standards-based instructional and assessment strategies
	• Teachers participate in training to integrate technology into curriculum
Evaluation Instruments:	• Session evaluation forms
Professional Development Alignment to Content Standards Measures:	• Instructional Accountability Initiative (IAI) • Professional Development Standards
Teacher's Instructional Practices Evaluation:	• Instructional Accountability Initiative (IAI) • Professional Development Standards
Impact on Student Achievement:	• Professional Development Standards

Policies Relevant to Standards-based Assessments

Extent to Which Assessments are Aligned to District Standards and Curriculums:	• The Tennessee Comprehensive Assessment Program (TCAP) includes the use of the CTBS/5 (TerraNova) in order to align with national and local standards
	• District content standards and curricula are highly aligned with the entire range of TCAP assessment instruments which include TerraNova Achievement Tests, TCAP Competency Tests, and State End of-Course Tests
Methods stakeholders are informed of goals, objectives and accomplishments of assessment program:	• Student report cards • Progress reports • School and district newsletters and publications • General media (radio and newspaper) • Parent meetings (PTA) • USI Community Advisory Council • Public forums

USI Leadership, Governance, and Management

Superintendent:	• Johnnie B. Watson, new superintendent, 10/2000; previous MUSI project director is now associate superintendent for curriculum and school reform
USI Office:	• USI Project Director reports to the Associate Superintendent
	• Math and science facilitators organize professional development
Community Key Personnel:	
Teacher Leaders:	• Teachers-on-Assignment (10) • Teachers on assignment present professional development, technical assistance, student support programs

Memphis USI

Partnerships

Other Key Initiatives:	• Eisenhower Funds • Title I • Title II • Title VI • Perkins Funds • Goals 2000
Community Stakeholders:	• Southeastern Consortium for Minority Engineering, Inc. SECME • Department of the Army • Pink Palace • Lichterman Nature Center • Children's Museum • Memphis Zoo • Memphis Chamber of Commerce • Memphis Museum System Board of Directors • Memphis Girl Clubs • University of Tennessee Medical Center • St. Jude Research Hospital
Higher Education:	• University of Memphis • Christian Brothers University • LeMoyne-Owen College • Rhodes College • University of Tennessee at Memphis • Shelby State Community College
Business and Industry:	• IBM • Oak Ridge Laboratories • International Paper Corp.
Other Partnerships:	• Partners in Public Education (PIPE) • New American Schools • Memphis Alliance for Minority Participation

Policy Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	• Few policies existed to influence achievement in specific content areas
1995-96	• New Graduation Policies: Students are required to have a least three units each of mathematics and science in order to graduate. In mathematics Algebra I must be included; in science, the units must include two laboratory science courses. • Students in grades three through eight must pass both mathematics and science in order to be promoted to the next grade
1996-97	
1997-98	• All students must enroll in Algebra I by G9 and Geometry by G10 • All students must enroll in Physical Science by G9 and Biology by G10 • Each school must implement a School Improvement Plan that includes the Memphis USI goals and achievements • G8 students can receive high school credit for Algebra I and Physical Science
1998-99	• No changes reported
1999-00	• No changes reported
2000-01	• No changes reported

Curriculum and Instruction Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	• Curriculum and instruction implementation centered around more traditional practices. Instruction was primarily fact-based and heavily lecture oriented. Little emphasis was place on problem solving, process skills, and critical thinking. In addition,
1995-96	• All low level math courses (e.g., Applied Mathematics and Arithmetic 9) were eliminated • Pacesetter Mathematics, a pre-calculus course added to the curriculum
1996-97	• All science classes have adopted standards-based curricular materials selected by individual schools
1997-98	• District Level Mathematics and Science Content Standards developed and implemented
1998-99	• Textbook adoption process for mathematics was completed and all schools selected standards-based mathematics textbooks and curricula
1999-00	• District content standards and curriculum provide framework for instruction
2000-01	• The district adheres to the new state and city framework and curriculum guides that will be implemented in 2001-02

Memphis USI

Professional Development Policy and Program Changes to Support Teachers During USI Implementation

School Year	Policy Implemented
Before USI	◦Prior to Memphis USI, mathematics and science professional development could be best characterized as extended, sequential training, primarily focused on content as opposed to instructional planning and methodologies. ◦Professional development was not required
1995-96	◦Teachers-on-Assignment (TOA) positions created. TOAs provide assistance in professional development, teacher performance assessment and standards-based curriculum selection and development ◦Lead teachers for both mathematics and science were trained in each school to promote and advance the implementation of standards-based curriculum, instruction, and assessment
1996-97	◦Professional development requirements for all teachers were increased. All secondary mathematics and science teachers must participate in a two-week summer Equity 2000 Institute. All elementary teachers required to participate in a one-week mathematic institute
1997-98	◦Memphis City Schools Professional Development Standards developed to direct all professional development activities ◦Instructional Accountability Initiative (IAI) developed - identifies indicators of classroom instructional practices, provides classroom observations and reports on standards-driven curriculum and instructional practices ◦Standards-based curricula and introduction implementation strategies are introduced ◦Teaching and Learning Academy established - a professional development center devoted to math, science and technology
1998-99	◦All new and non-tenured and non-certified teachers are required to participate in professional development activities ◦All principals and district administrators required to participate in Memphis USI Leadership Institute
1999-00	
2000-01	◦Teachers are required to complete 42 hours of professional development

Standards-based Assessment System Changes During USI Implementation

School Year	Policy Implemented
Before USI	◦The Tennessee Comprehensive Assessment Program (TCAP) was the assessment program implemented in the district. The TCAP is a legislated mandatory testing program. The pre 1994-95 version was not closely aligned with national and district standards. It d
1995-96	◦No changes reported
1996-97	◦No changes reported
1997-98	◦Tennessee Comprehensive Assessment Program (TCAP) Achievement Test (Terra Nova) - G3-8
1998-99	◦Everyday math assessments used in 89 schools
1999-00	◦Everyday math assessments used in 113 ◦District content standards and curriculum guides provide framework for assessment.
2000-01	◦No changes reported

School District Progress Report

March 2002

Urban School Key Indicators of Science and Mathematics Education: 2001

BEST COPY AVAILABLE

New Orleans USI

Project Information

USI Project Title : New Orleans USI
Cohort: 94 (Sept. 95 - Aug. 00)
USI Web Site:

• PI, CO-PI and PD

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ccasmier_nops.k12.la.us

Mr. Henry Reed
Project Director/Director
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• USI Data Manager/Evaluator

Mrs. Lillian A. Collins
Data Analyst/Tech Resource Asst.
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• Mailing Address

New Orleans Public Schools
3510 General DeGaulle Drive
New Orleans, Louisiana 70114

• USI Schools Math & Sci. Teachers and Students

98-99	Schools	Teachers	Students
K-G5 (Elementary)	80	1,671	39,788
G6-8 (Middle)	15	193	17,370
G9-12 (High)	22	252	24,578
Total	117	2,116	81,736

(·) Data Missing

Project Summary

The New Orleans Public Schools Urban Systemic Initiative (NO USI) proposes a major and profound change in the entire K-12 science, mathematics, and technology program. Five themes serve as the foundation for the plan of action:
(1) student achievement/content/instructional delivery/assessment;
(2) pedagogy/teaching practices;
(3) school/district culture;
(4) policy and governance; and
(5) partnerships/coordination of external agencies and stakeholders.

These themes will generate specific changes that will affect every student, teacher, and staff member in the system.

Project Goals

- Mathematics, science, and technology education for all students will be spiral, thematic, interdisciplinary, multicultural, and based on national standards and transparently integrated technology.
- Preservice and inservice activities will promote use of multiple teaching strategies, authentic assessment, and management techniques by all teachers.
- All schools, departments, and divisions will employ total quality management philosophies, practices, and techniques in creating a culture that supports systemic change.
- The district will create and realign policies, develop initiatives, reallocate existing funds, and acquire new funds to support the systemic change process.
- By the end of the first year, consortia of stakeholders will provide expertise, resources, and advice to support the implementation of the initiative.

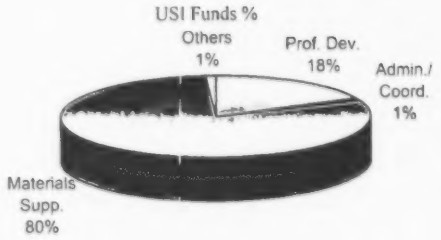
Selected School Indicators (District Average)

	94-95	97-98	Change
%Special Ed.	25.0%	18.0%	-7.0 PP
%LEP	·	16.0%	·
%FRL	70.3%	75.1%	+4.8 PP
%Daily Ave. Atten.	87.3%	90.3%	+3.0 PP
%Average Retained	·	·	·
%Drop-Out	5.3%	10.6%	+5.3 PP
%Mobility	·	·	·
Per Pupil Cost ($)	$4,502	$5,364	+19.1%
Num of Students Per Computer	·	·	·
% Classrooms Internet Access	·	·	·
Average Class Size	30	33	+10.0%

PP: Percentage Points

District and USI Fund Utilization (SY 1997-98)

	District	USI
Prof. Dev.	42%	18%
Admin./Coord.	12%	1%
Materials/Supp.	43%	80%
Others	3%	1%
Total	100%	100%



New Orleans USI

Student Demographics (SY 1998-99)

District Total:	82,288	
USI Schools:	81,736	99%

♦ Race/Ethnicity

	94-95	98-99	%	Change
Ame. Ind./Ala. Nat.	101	193	0.2%	+91.1%
Asian/P. Islander	1,507	1,774	2.2%	+17.7%
Black	44,860	73,090	88.8%	+62.9%
Hispanic	728	1,005	1.2%	+38.0%
White	3,371	3,882	4.7%	+15.2%
Other	31,428	2,344	2.8%	-92.5%
Total	81,995	82,288		+0.4%
URM Total	45,689	74,288	90.3%	+62.6%

URM: Underrepresented Minority students.

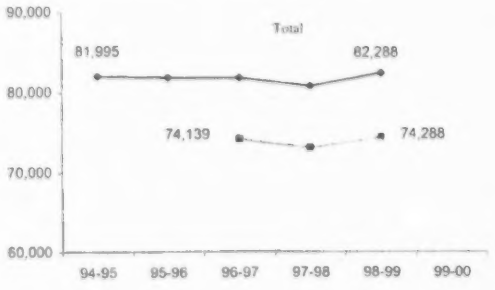
♦ Gender

Male	24,510	40,098	48.7%	+63.6%
Female	26,326	42,190	51.3%	+60.3%

♦ Grade

K-G5	39,936	37,971	46.1%	-4.9%
G6-8	17,448	17,316	21.0%	-0.8%
G9-12	21,579	21,348	25.9%	-1.1%
Ungraded	3,032	5,653	6.9%	+86.4%

♦ District-Wide Student Demographic Trends



12th Grade Graduates

	94-95	98-99	Change
Total 12th Grade	3,765	4,421	+17%
Earned a Diploma	2,998	3,552	+18%
% Earned Diploma	80%	80%	+0 PP

% Earned Diploma

80%

College Entrance

	94-95	98-99	Change
2 Yr College	·	466	·
4 Yr College	1,172	2,689	+129%
Other Post-Secon.	·	382	·
Total C. E.	·	3,537	·
% C. E./Earned Dip.	·	100%	·

% College Entrance

99.6%

High School Graduation Requirements SY 98-99

- Mathematics
  - 4 Units
  - Successful completion of GEE*1 for LEAP*2
- Science
  - 3 Units
  - Biology, Chemistry, Environmental Science Physics, or Physics of Technology

(·) Data Missing PP: Percentage Points

*1 Graduation Exit Exam

*2 Louisiana Education Assessment Program

Math and Science Teachers & Certification

♦ Mathematics (G6-12)

		95-96	98-99	Change
G6-8	Teachers	375	193	-49%
	Certified	261	·	·
	% Cert.	70%	·	·
G9-12	Teachers	180	153	-15%
	Certified	111	114	+3%
	% Cert.	62%	75%	+13 PP
Total	Teachers	555	346	-38%
	Certified	372	·	·
	% Cert.	67%	·	·

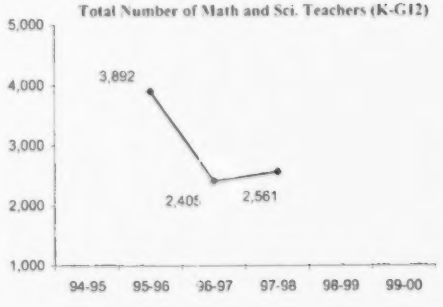
♦ Science (G6-12)

		95-96	98-99	Change
G6-8	Teachers	375	193	-49%
	Certified	261	·	·
	% Cert.	70%	·	·
G9-12	Teachers	180	210	+17%
	Certified	111	87	-22%
	% Cert.	62%	41%	-21 PP
Total	Teachers	555	403	-27%
	Certified	372	·	·
	% Cert.	67%	·	·

♦ Math and Science (K-G5)

		94-95	98-99	Change
K-G5	Teachers	2,782	·	·

Total Number of Math and Sci. Teachers (K-G12)

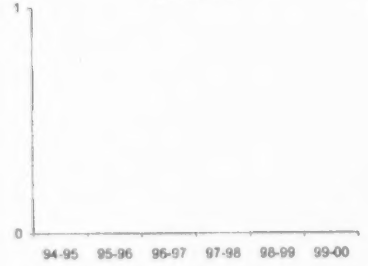


Mathematics and Science Enrollment & Completion Trends/ All vs. URM

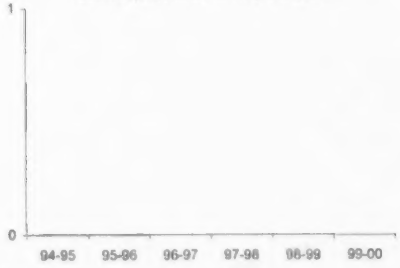
G 9-12 Mathematics Gate-Keeping Courses (Algebra II, Geo., and Calculus)

		94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population							
All Students	Enrollment						
	Completion *1						
	% Enroll/ G9-12						
URM *2	Enrollment						
	Completion *1						
	% Enroll/ G9-12						

All Students



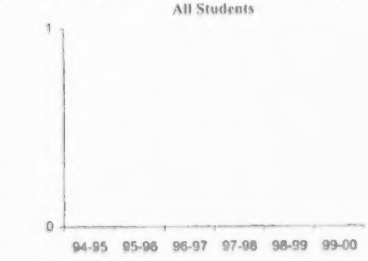
Underrepresented Minority Students *2



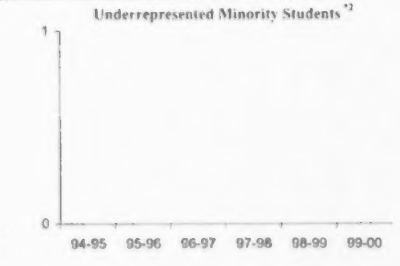
G 9-12 Science Gate-Keeping Courses (Biology 1, Chem. 1, and Physics 1)

		94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population							
All Students	Enrollment						
	Completion *1						
	% Enroll/ G9-12						
URM *2	Enrollment						
	Completion *1						
	% Enroll/ G9-12						

All Students



Underrepresented Minority Students *2

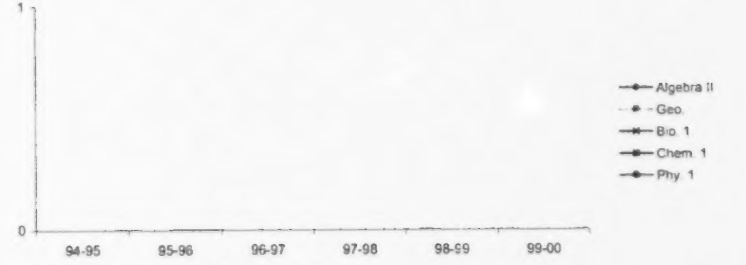


*1 Successful completion: grade 'D' or above.
*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Mathematics and Science Enrollment & Completion Trends By Subject

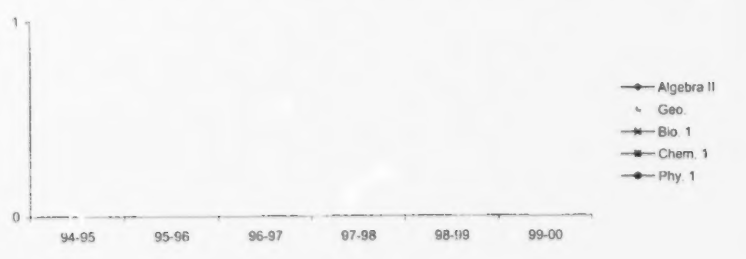
G 9-12 Course Enrollment (All Students)

	Algebra II	Geo.	Calculus	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
94-95								
95-96								
96-97								
97-98								
98-99								
99-00								



G 9-12 Course Completion *1 (All Students)

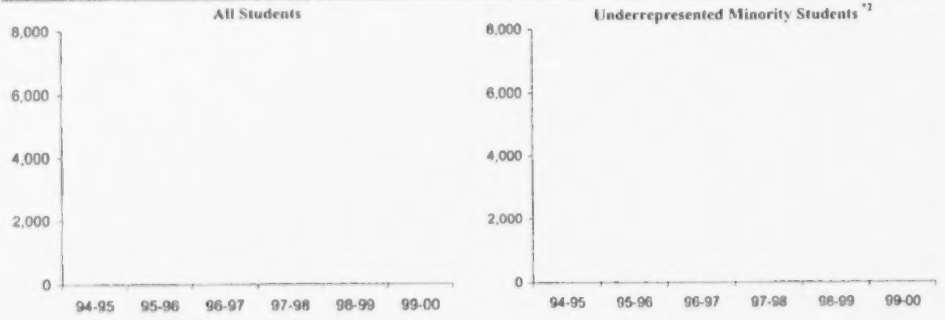
	Algebra II	Geo.	Calculus	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
94-95								
95-96								
96-97								
97-98								
98-99								
99-00								



* No data presented because data could not be validated.

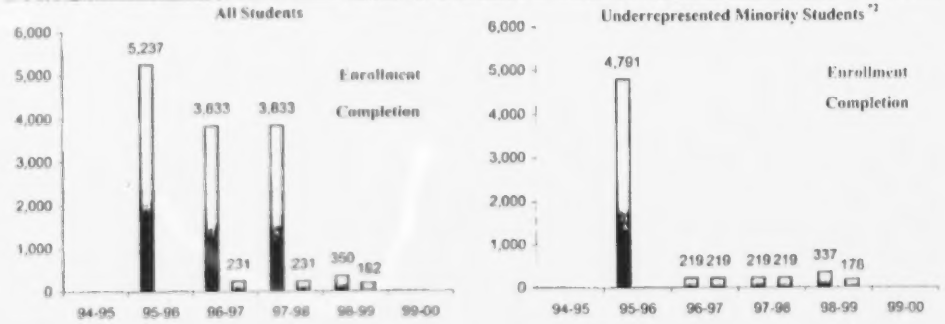
Algebra I or Above in 8th Grade Enrollment & Completion Trends/ All vs. URM

		94-95	95-96	96-97	97-98	98-99	99-00
Total G 8 Population		5,439	5,267	5,611	5,426	5,494	.
All Students	Enrollment	0	0	0	0	0	.
	Completion *1	0	0	0	0	0	.
	% Enroll/ G8	0%	0%	0%	0%	0%	.
URM *2	Enrollment	0	0	0	0	0	.
	Completion *1	0	0	0	0	0	.
	% Enroll/ G8	0%	0%	0%	0%	0%	.



Biology Enrollment & Completion Trends/ All vs. URM

		94-95	95-96	96-97	97-98	98-99	99-00
All Students	Enrollment	0	5,237	3,833	3,833	350	.
	Completion *1	0	.	231	231	182	.
URM *2	Enrollment	0	4,791	219	219	337	.
	Completion *1	0	.	219	219	178	.



*1 Successful completion: grade 'D' or above

*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

(.) Data Missing

Professional Development Participation of Teachers Teaching Mathematics and/or Science

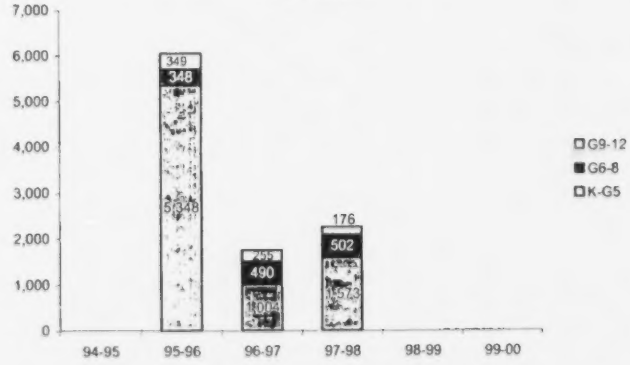
Total Number Teachers by Subject (G6-12)

	94-95	95-96	96-97	97-98	98-99	99-00
Mathematics	.	555	414	445	346	.
Science	.	555	352	445	403	.

Total Number of Teachers Participating in PD by Grade Level

Teachers	94-95	95-96	96-97	97-98	98-99	99-00
Total K-G5	.	2,782	1,639	1,671	.	.
# K-G5 Participated	.	5,348	1,004	1,573	.	.
% K-G5 Participated	.	192%	61%	94%	.	.
Total G6-8	.	750	384	386	386	.
# G6-8 Participated	.	348	490	502	0	.
% G6-8 Participated	.	46%	128%	130%	0%	.
Total G9-12	.	360	382	504	363	.
# G9-12 Participated	.	349	255	176	0	.
% G9-12 Participated	.	97%	67%	35%	0%	.

Number of Teachers Participating in Professional Development by Grade Level Taught



Number of Teachers by Duration of Professional Development

	94-95	95-96	96-97	97-98	98-99	99-00
1-59 Hours	.	3,403	1,493	1,627	.	.
60-119 Hours	.	1,907	164	624	.	.
120-200 Hours	.	442	92	0	.	.
More than 200 Hours	.	293	0	0	.	.

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District Assessment Test Administered

♦ **Mathematics**

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name						
Scoring						
Grade						
Type						

♦ **Science**

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name						
Scoring						
Grade						
Type						

State Assessment Test Administered

♦ **Mathematics**

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	CAT/5	CAT/5	CAT/5	ITBS	ITBS	
Scoring	PF,SS	PF,SS	PF,SS	PC,SS	PC,SS	
Grade	3-8,10,11	3-8,10,11	3-8,10,11	3-11	3-11	
Type	NRT,CRT	NRT,CRT	NRT,CRT	NRT,CRT	NRT,CRT	

♦ **Science**

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	CAT/5	CAT/5	CAT/5	ITBS	ITBS	
Scoring	PF,SS	PF,SS	PF,SS	PC,SS	PC,SS	
Grade	3-8,10,11	3-8,10,11	3-8,10,11	3-11	3-11	
Type	NRT,CRT	NRT,CRT	NRT,CRT	NRT,CRT	NRT,CRT	

*CAT/5: California Achievement Test *ITBS: Iowa Test of Basic Skills

PC: Percentile SN: Stanine PL: Performance Level

PF: Pass/Fail SS: Scaled Score OT: Other

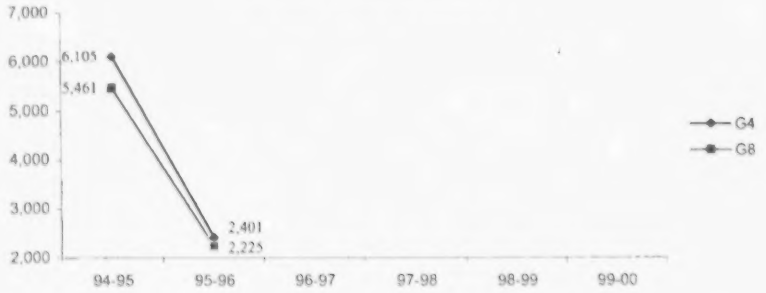
NRT: Norm-Referenced Test CRT: Criterion-Referenced Test ( ) Data Missing

State Assessment Test-Taker Trends - CAT/5

♦ **Mathematics**

# of Test-takers	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4	6,105	2,401				
Grade 8	5,461	2,225				
Grade 10						

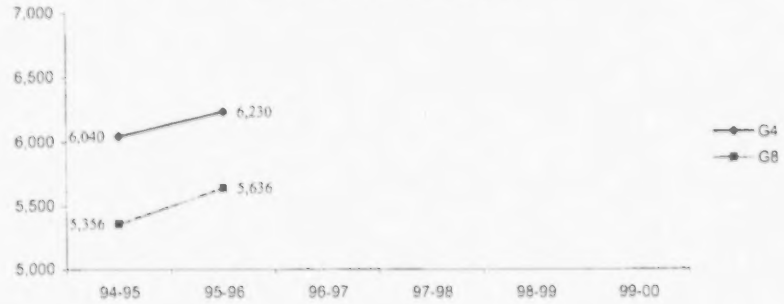
Total number of students taking test



♦ **Science**

# of Test-takers	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4	6,040	6,230				
Grade 8	5,356	5,636				
Grade 10						

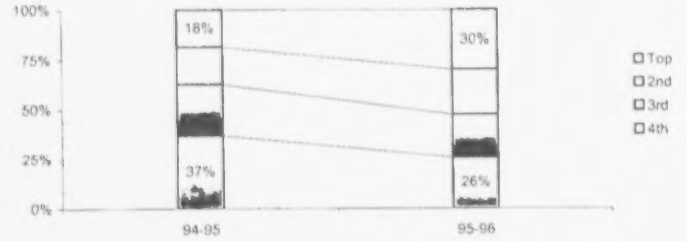
Total number of students taking test



State Assessment Test Result Trends - CAT/5 Mathematics

♦ **Grade 4**

Quartile[*1]	94-95	95-96	96-97	97-98	98-99	99-00
Top	18%	30%				
2nd	19%	23%				
3rd	26%	21%				
4th	37%	26%				
Total num of students	6,105	2,401				



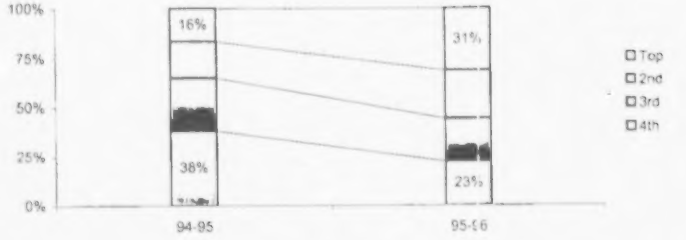
% Passing by Gender

% Passing by Race/Ethnicity[*2]

State Assessment Test Result Trends - CAT/5 Mathematics

♦ **Grade 8**

Quartile[*1]	94-95	95-96	96-97	97-98	98-99	99-00
Top	16%	31%				
2nd	19%	24%				
3rd	27%	22%				
4th	38%	23%				
Total num of students	5,461	2,225				



% Passing by Gender

% Passing by Race/Ethnicity[*2]

AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

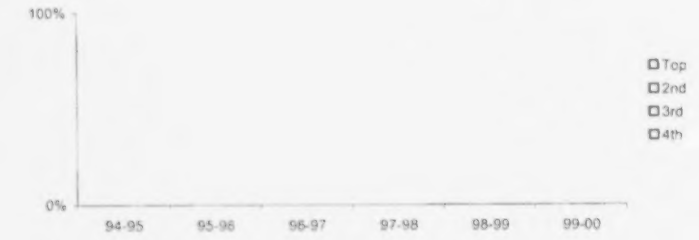
% Passing defined as Top Quartile + 2nd Quartile

[*1] '00 Quartile' not included in presented data [*2] % Passing not presented for sample size less than 5

State Assessment Test Result Trends - CAT/5 Mathematics

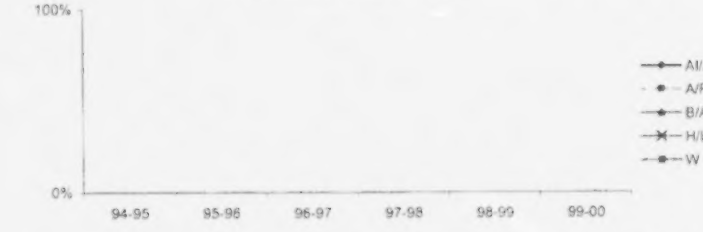
♦ Grade 10

Quartile[*1]	94-95	95-96	96-97	97-98	98-99	99-00
Top						
2nd						
3rd						
4th						
Total num of students						



% Passing by Gender

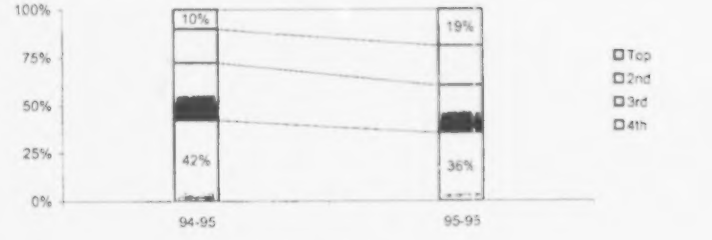
% Passing by Race/Ethnicity



State Assessment Test Result Trends - CAT/5 Science

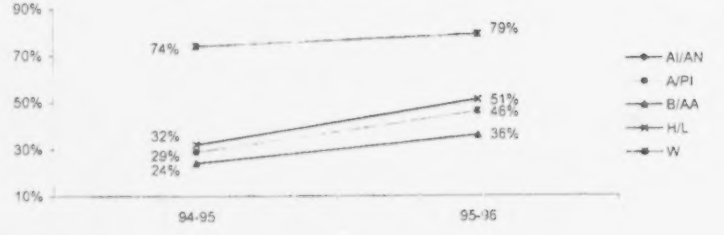
♦ Grade 4

Quartile[*1]	94-95	95-96	96-97	97-98	98-99	99-00
Top	10%	19%				
2nd	18%	21%				
3rd	30%	25%				
4th	42%	36%				
Total num of students	6,040	6,230				



% Passing by Gender

% Passing by Race/Ethnicity[*2]



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as Top Quartile + 2nd Quartile

[*1] '00 Quartile' not included in presented data [*2] % Passing not presented for sample size less than 5

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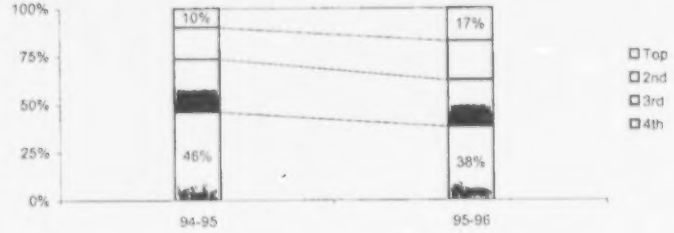
State Assessment Test Result Trends - CAT/5 Science

♦ Grade 8

Quartile[*1]	94-95	95-96	96-97	97-98	98-99	99-00
Top	10%	17%				
2nd	17%	20%				
3rd	27%	24%				
4th	46%	38%				
Total num of students	5,356	5,636				



% Passing by Gender

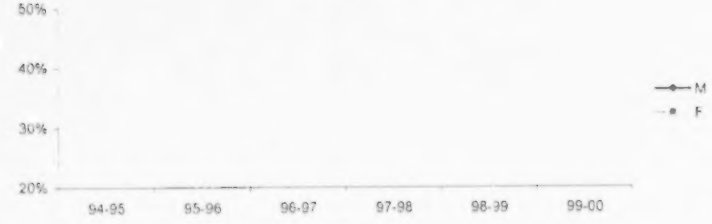
% Passing by Race/Ethnicity[*2]

State Assessment Test Result Trends - CAT/5 Science

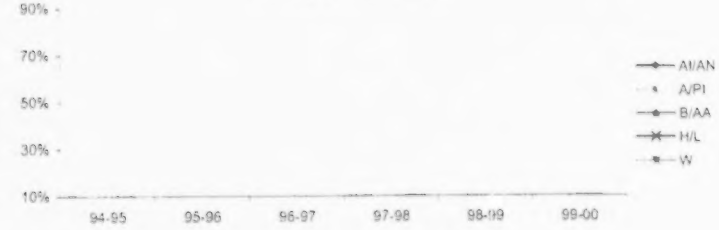
♦ Grade 10

Quartile[*1]	94-95	95-96	96-97	97-98	98-99	99-00
Top						
2nd						
3rd						
4th						
Total num of students						

% Passing by Gender



% Passing by Race/Ethnicity



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% Passing defined as Top Quartile + 2nd Quartile

[*1] '00 Quartile' not included in presented data. [*2] % Passing not presented for sample size less than 5

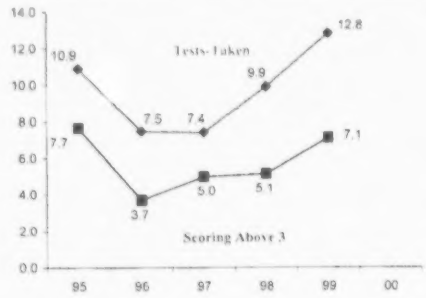
AP Mathematics Test Result Trends

♦ AP Mathematics (Calculus AB, Calculus BC, & Statistics)

♦ AP Mathematics - Total Number of Tests Taken

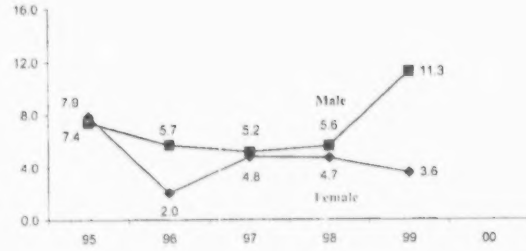
		95	96	97	98	99	00
Total num of 11th & 12th students		6,797	8,142	9,449	8,794	9,282	
Tests Taken	Calc. AB	53	45	47	40	57	51
	Calc. BC	21	16	23	32	43	18
	Statistics	0	0	0	15	19	9
	Total	74	61	70	87	119	78
Num of tests-taken/1,000 stu		10.9	7.5	7.4	9.9	12.8	
Scoring Above 3		52	30	47	45	66	27
Num of Above 3/ 1,000 students		7.7	3.7	5.0	5.1	7.1	

Number of tests taken and scoring above 3 per 1,000 students



♦ AP Mathematics - Number of Students Scoring Above 3 By Gender per 1,000 Students

		95	96	97	98	99	00
Score Above 3 per 1,000	Male	7.4	5.7	5.2	5.6	11.3	
	Female	7.9	2.0	4.8	4.7	3.6	

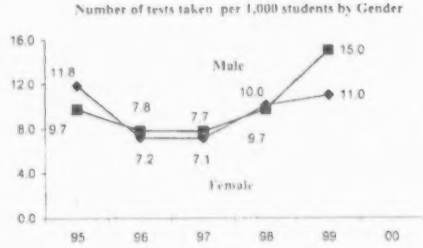


♦ AP Mathematics - Number of Tests Taken By Gender

Per 1,000 Students

		95	96	97	98	99	00
Tests Taken per 1,000	Male	9.7	7.8	7.7	9.7	15.0	
	Female	11.8	7.2	7.1	10.0	11.0	

Number of tests taken per 1,000 students by Gender



♦ AP Mathematics - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students

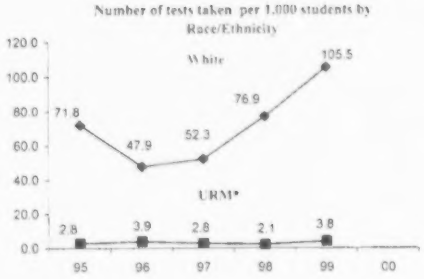
	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0	
A/PI	53.5	21.2	28.3	42.9	53.4	
B/AA	0.5	0.8	0.9	0.5	0.7	
H/L	26.8	7.4	9.8	8.6	14.6	
W	57.5	36.5	48.8	43.2	80.1	

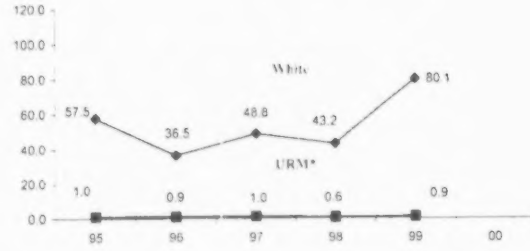
♦ AP Mathematics - Number of Tests Taken By Race/Ethnicity

Per 1,000 Students [1]

	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0	
A/PI	68.7	31.8	45.9	82.1	106.8	
B/AA	2.3	3.7	2.6	1.8	3.4	
H/L	26.8	14.7	19.6	25.9	29.2	
W	71.8	47.9	52.3	76.9	105.5	

Number of tests taken per 1,000 students by Race/Ethnicity





AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White

[1] "Other" category not presented

(.) Data missing

*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

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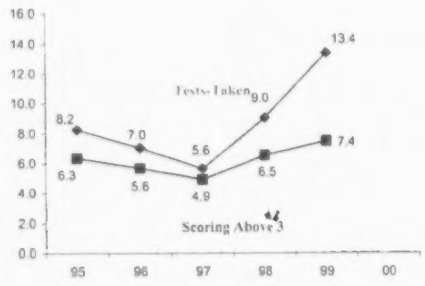
AP Science Test Result Trends

♦ AP Science (Biology, Chemistry, Environ. Sci., Phy. B, Phy. C Mech., & Phy. C Elec.)

♦ AP Science - Total Number of Tests Taken

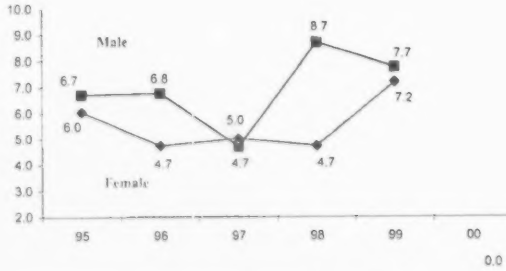
		95	96	97	98	99	00
Total num of 11th & 12th students		6,797	8,142	9,449	8,794	9,282	0
Tests Taken	Biology	32	30	30	32	73	30
	Chem.	7	11	12	18	23	14
	Enviro. Sci.	0	0	0	12	9	4
	Physics B	0	1	0	0	1	0
	Ph. C Mech.	17	15	10	17	18	15
	Ph. C Elec.	0	0	1	0	0	1
	Total	**56**	**57**	**53**	**79**	**124**	**64**
Num of tests-taken/1,000 stu.		8.2	7.0	5.6	9.0	13.4	.
Scoring Above 3		43	46	46	57	69	49
Num of Above 3/ 1,000 students		6.3	5.6	4.9	6.5	7.4	.

Number of tests taken and scoring above 3 per 1,000 students



♦ AP Science - Number of Students Scoring Above 3 By Gender per 1,000 Students

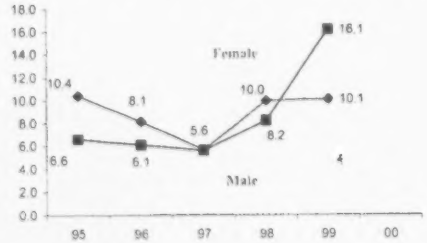
		95	96	97	98	99	00
Score Above 3 per 1,000	Male	6.7	6.8	4.7	8.7	7.7	.
	Female	6.0	4.7	5.0	4.7	7.2	.



♦ AP Science - Number of Tests Taken By Gender Per 1,000 Students

		95	96	97	98	99	00
Tests Taken per 1,000	Male	10.4	8.1	5.6	10.0	10.1	.
	Female	6.6	6.1	5.6	8.2	16.1	.

Number of tests taken per 1,000 students by Gender



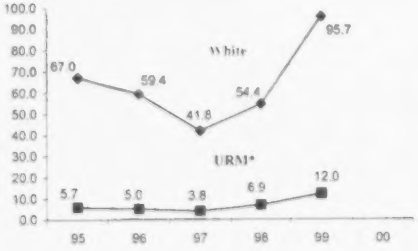
♦ AP Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [1]

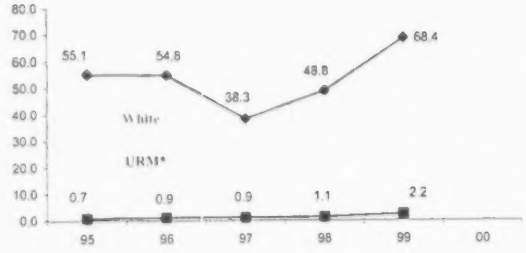
	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	1,000.0	.
A/PI	45.8	38.9	31.8	64.3	39.1	.
B/AA	0.5	0.8	0.8	0.8	1.4	.
H/L	8.9	7.4	9.8	25.9	43.8	.
W	55.1	54.8	38.3	48.8	68.4	.

♦ AP Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [1]

	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	1000.0	.
A/PI	61.1	53.0	42.4	67.9	53.4	.
B/AA	5.3	4.9	3.7	6.6	11.4	.
H/L	26.8	7.4	19.6	25.9	43.8	.
W	67.0	59.4	41.8	54.4	95.7	.

Number of tests taken per 1,000 students by Race/Ethnicity





AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[1] "Other" category not presented
(.) Data missing

*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

New Orleans USI

AP Computer Science Test Result Trends

♦ AP Computer Science - Total Number of Tests Taken

		95	96	97	98	99	00
Total num of 11th & 12th students		6,797	8,142	9,449	8,794	9,282	.
Tests Taken	Comp. Sci A	0	0	2	0	1	0
	Comp. Sci. AB	11	4	13	3	8	0
	Total	**11**	**4**	**15**	**3**	**9**	**0**
Num of tests-taken/1,000 stu		1.6	0.5	1.6	0.3	1.0	.
Scoring Above 3		10	4	9	3	8	0
Num of Above 3/ 1,000 students		1.5	0.5	1.0	0.3	0.9	.

♦ AP Computer Science - Number of Tests Taken By Gender

Per 1,000 Students

		95	96	97	98	99	00
Tests Taken per 1,000	Male	2.3	1.1	3.1	0.8	1.9	.
	Female	1.0	0.0	0.4	0.0	0.2	.

♦ AP Computer Science - Number of Tests Taken By Race/Ethnicity

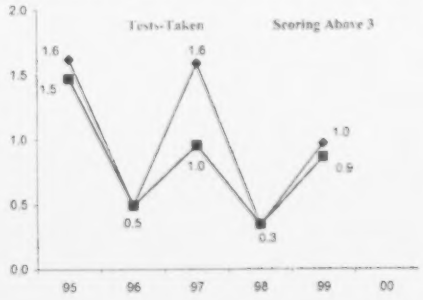
Per 1,000 Students [1]

	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0	.
A/PI	22.9	0.0	14.1	0.0	7.1	.
B/AA	0.2	0.0	0.2	0.1	0.1	.
H/L	0.0	0.0	0.0	0.0	0.0	.
W	7.2	9.1	12.2	3.8	11.7	.

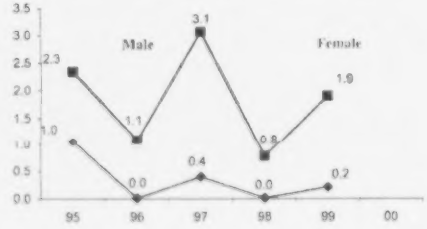
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[1] "Other" category not presented
(.) Data missing

♦ AP Computer Science (Computer Science A & AB)

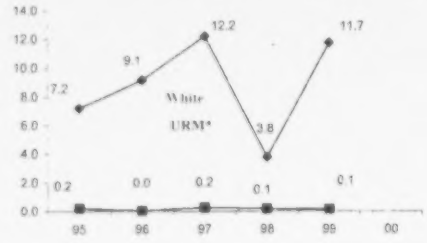
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender

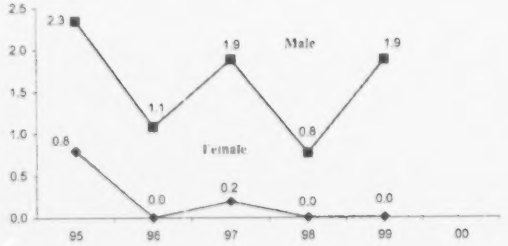


Number of tests taken per 1,000 students by Race/Ethnicity



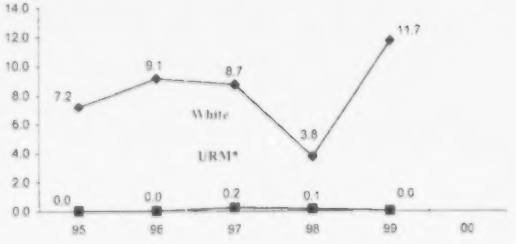
♦ AP Computer Science - Number of Students Scoring Above 3 by Gender per 1,000 Students

		95	96	97	98	99	00
Score Above 3 per 1,000	Male	2.3	1.1	1.9	0.8	1.9	.
	Female	0.8	0.0	0.2	0.0	0.0	.



♦ AP Computer Science - Number of Students Scoring Above 3 by Race/Ethnicity per 1,000 Students [1]

	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0	.
A/PI	22.9	0.0	7.1	0.0	7.1	.
B/AA	0.0	0.0	0.2	0.1	0.0	.
H/L	0.0	0.0	0.0	0.0	0.0	.
W	7.2	9.1	8.7	3.8	11.7	.



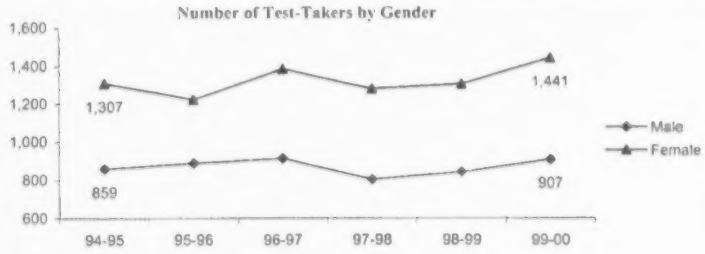
*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

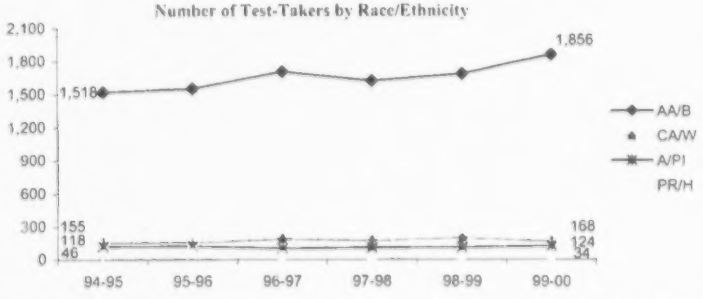
New Orleans USI

ACT Test-Takers

♦ Number of Test-Takers

		94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students *1		2,896	3,166	4,454	4,291	4,442	
Test-Takers		2,166	2,109	2,296	2,080	2,151	2,351
Num of Test-Takers/1,000 Stu.		748	666	515	485	484	
Gender	Male	859	887	912	802	841	907
	Female	1,307	1,222	1,384	1,278	1,304	1,441
Race/Ethnicity	AA/B	1,518	1,549	1,700	1,616	1,678	1,856
	AI/AN *2	2	10	9	4	2	4
	CA/W	155	155	187	173	197	168
	MA/C *2	3	8	3	12	14	12
	A/PI	118	120	97	104	107	124
	PR/H	46	57	29	23	28	34

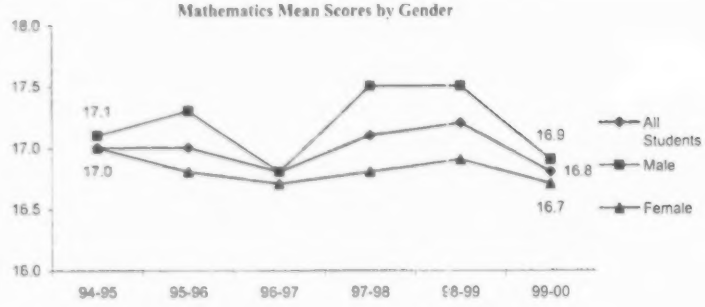


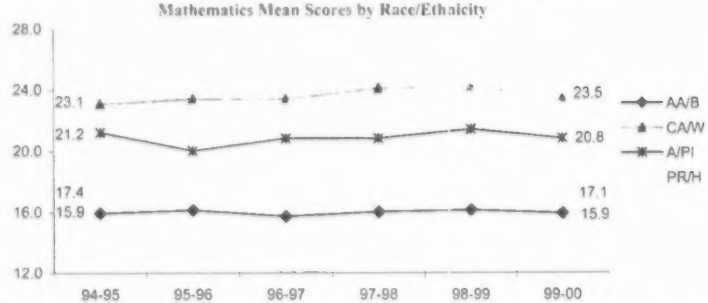


ACT Mathematics Scores

♦ Mathematics - Mean Score Trends

		94-95	95-96	96-97	97-98	98-99	99-00
All Students		17.0	17.0	16.8	17.1	17.2	16.8
Gender	Male	17.1	17.3	16.8	17.5	17.5	16.9
	Female	17.0	16.8	16.7	16.8	16.9	16.7
Race/Ethnicity	AA/B	15.9	16.1	15.7	16.0	16.1	15.9
	AI/AN *3	-	20.0	17.6	-	-	-
	CA/W	23.1	23.4	23.4	24.1	24.2	23.5
	MA/C *3	-	17.8	-	18.6	17.4	20.2
	A/PI	21.2	20.0	20.8	20.8	21.4	20.8
	PR/H	17.4	17.6	19.1	17.9	17.5	17.1





AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispa

*1 Data not available for 12th grade enrollment for SY 99-00

*2 Number of Test-Takers less than 5 not presented on graph

( )Data Missing

*3 Mean score not presented for sample size less than 5

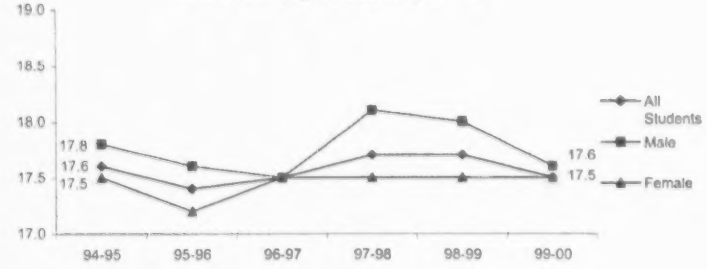
New Orleans USI

ACT Science Reasoning Scores

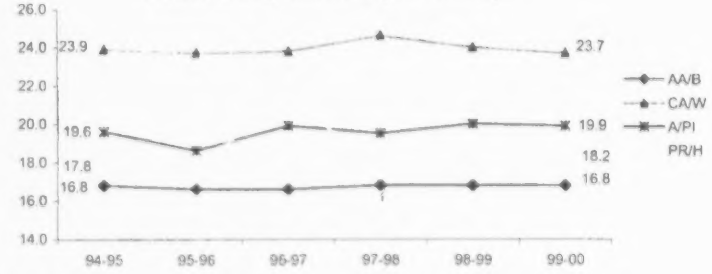
♦ **Science Reasoning - Mean Score Trends**

		94-95	95-96	96-97	97-98	98-99	99-00
All Students		17.6	17.4	17.5	17.7	17.7	17.5
Gender	Male	17.8	17.6	17.5	18.1	18.0	17.6
	Female	17.5	17.2	17.5	17.5	17.5	17.5
Race/Ethnicity	AA/B	16.8	16.6	16.6	16.8	16.8	16.8
	AI/AN *1	-	18.9	16.6	-	-	-
	CA/W	23.9	23.7	23.8	24.6	24.0	23.7
	MA/C *1	-	16.8	-	19.3	17.8	21.2
	A/PI	19.6	18.6	19.9	19.5	20.0	19.9
	PR/H	17.8	18.1	20.8	18.4	18.5	18.2

Science Reasoning Mean Scores by Gender



Science Reasoning Mean Scores by Race/Ethnicity



AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic

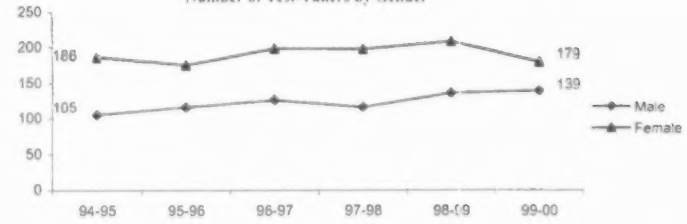
*1 Mean score not presented for sample size less than 5

SAT Test-Takers

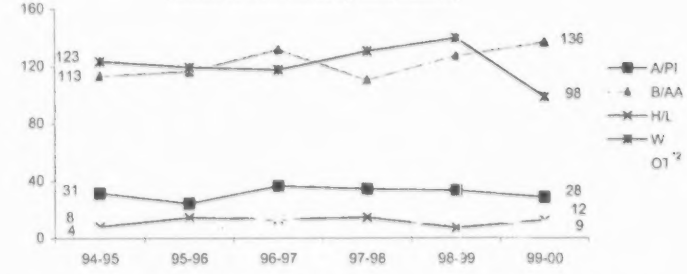
♦ **Number of Test-Takers**

		94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students *2		2,896	3,166	4,454	4,291	4,442	
Test-Takers		291	291	324	313	344	318
Num of Test-Takers/1,000 Stu.		100	92	73	73	77	
Gender	Male	105	116	126	116	136	139
	Female	186	175	198	197	208	179
Race/Ethnicity	AI/AN *3	2	3	2	1	3	4
	A/PI	31	24	36	34	33	28
	B/AA	113	116	131	110	127	136
	H/L	8	14	13	14	7	12
	W	123	119	117	130	139	98
	OT	4	9	14	6	13	9

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

*2 Data not available for 12th grade enrollment for SY 99-00

*3 Number of Test-Takers less than 5 not presented on graph

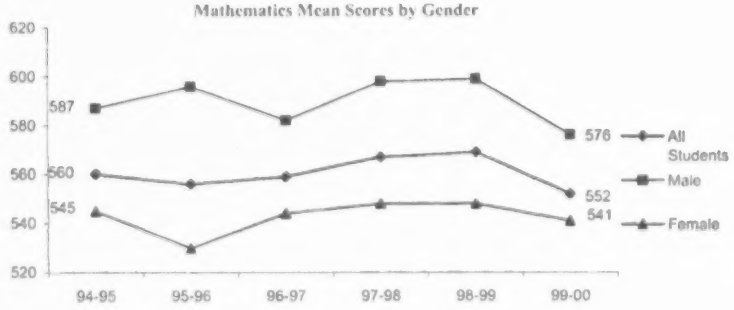
( ) Data Missing

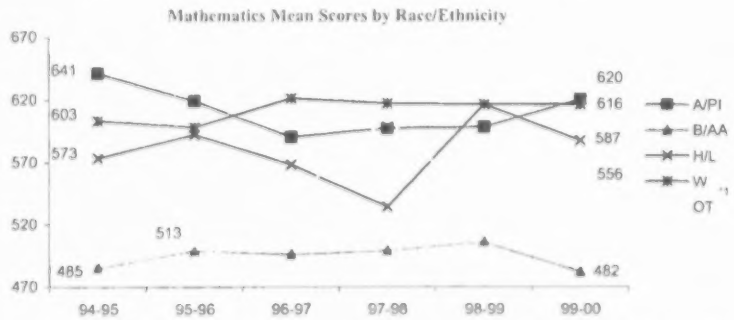
New Orleans USI

SAT Mathematics Scores

♦ Mathematics - Mean Score Trends

		94-95	95-96	96-97	97-98	98-99	99-00
All Students		560	556	559	567	569	552
Gender	Male	587	596	582	598	599	576
	Female	545	530	544	548	548	541
Race/Ethnicity	AI/AN *1	-	-	-	-	-	-
	A/PI	641	619	590	597	598	620
	B/AA	485	499	496	499	506	482
	H/L	573	592	568	534	616	587
	W	603	598	621	617	616	616
	OT *1	-	513	541	605	532	556

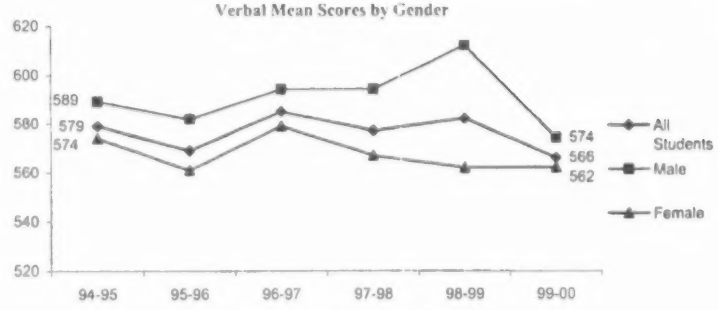


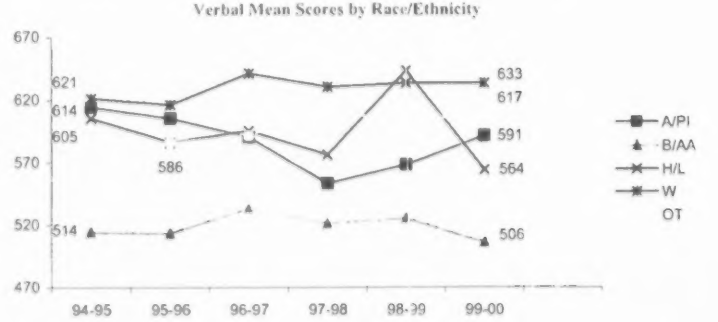


SAT Verbal Scores

♦ Verbal - Mean Score Trends

		94-95	95-96	96-97	97-98	98-99
All Students		579	569	585	577	582
Gender	Male	589	582	594	594	612
	Female	574	561	579	567	562
Race/Ethnicity	AI/AN *1	-	-	-	-	-
	A/PI	614	605	590	553	568
	B/AA	514	513	533	521	525
	H/L	605	586	595	576	643
	W	621	616	641	630	633
	OT *1	-	586	591	617	595





AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

*1 Mean score not presented for sample size less than 5

New Orleans USI

Cohort/Scale-Up Approach

	95-96	96-97	97-98	98-99	99-00
Number of District Schools:	*117*	*117*	*117*	*117*	*117*
USI Schools*:	113	117	117	117	*117*
% Schools:	97%	100%	100%	100%	100%

Italics: Data Imputed; * K-1 2001

Primary Decision Making Body

Standards Curriculum	State
Curriculum/TextBook Adoption	State
Student Assessment	State
Professional Development	State
Resources	State
Teacher Hiring	State
Teacher Contracts	State
Certification & Re-certification	State
Graduation Requirements	State
School-Based Management?	Yes

Policies Promoting Equal Access by All Students in High Quality Education

Student Tracking:

Criteria for Entry into High Level Mathematics and Science Courses:
- District/state mandated assessments

Availability of High Level Courses:
- Pacesetters and AP Calculus available in all schools

Special Education and Bilingual Students:
- Same courses available for special education students
- District/state mandated assessments the same for all students

Policies Impacting the Enrollment of Students in Challenging Math and Science Courses

Attendance:
- Pupils (K-8) must attend school 160 days per year
- Pupils (9-12) must attend school for at least 80 days

Guidance:
- All students are expected to see a guidance counselor as soon as possible to develop a educational plan and program for pathway to college and/or other curriculum from freshmen year

Student Support Systems:

Others:

Policies Relevant to Curriculum

Framework:
- Louisiana State Curriculum Framework

Curricula:

Curricula Materials:
- Full Option Science System (FOSS)
- BioTools

New Courses as a Result of USI:

Instructional Time:
- Mathematics: 315 minutes per week
- Science: 225

Others:

Standards-based Curriculum and Instruction

Standards Adopted:
- National Education Standards (science)
- National Science Standards

Primary Instructional Strategies:
- Hands-on, manipulated activities
- Problem solving
- Lecture and demonstration
- Textbook and guides
- Power point presentations
- Games and simulations
- Internet and other instructional media

% of Students Experiencing Standards-based Mathematics Curriculums	E: 100% M: 100% H: 100%
% of Students Experiencing Standards-based Science Curriculums:	E: 100% M: 100% H: 100%

Policies Relevant to Teacher Qualifications

Certification Requirement & Hiring Practices:
- State mandated guidelines and assessments
- Louisiana Teacher Mentor program and district recruitment

Professional Advancement & Leadership Training:

Contract Requirements:
- State mandated guidelines, and district policies and procedures

E: Elementary School M: Middle School H: High School

New Orleans USI

Professional Development Policies and Practices

Time Required or Supported:	•2 days state in-service days •Summer institutes and some Saturdays
Financial Resources Provided:	•Funds provided for teacher staff development, math & science standards-based curriculum, & teacher certification, technology integration, Internet training in the district through Title I, LEARN LA (Goal 2000),LASIP, USI, Eisenhower, and state
Alignment to Student Standards:	•Ongoing staff development aligned to standards-based curriculum and student standards •Standards-based curriculum implemented and Mathematics Science and Technology School Site Coordinators assisting schools with professional development
Measurement of Impact:	•Data analysis and measurement is available through Data Analyst, UNO Evaluator, and USI Site Coordinators who perform quantitative & qualitative analysis of impact on teacher/students, and IOWA test aligned with curriculum
Other:	•State master/mentor teacher program •Outside professional development seminars and training
Type and Amount Received by Average Math/Science Teacher:	•Average 60-120 hours •Training in implementing mathematics and science standards-based curriculums •Technology training
Evaluation Instruments:	•Surveys •Rubrics •Assessment plans
Professional Development Alignment to Content Standards Measures:	
Teacher's Instructional Practices Evaluation:	
Impact on Student Achievement:	•Evaluation of grades and student scores on standardized tests

Policies Relevant to Standards-based Assessments

Extent to Which Assessments are Aligned to District Standards and Curriculums:	• Louisiana Educational Assessment Program Materials (LEAP), and Iowa Test of Basic Skills aligned to the National Council of Teachers of Mathematics standards
Methods stakeholders are informed of goals, objectives and accomplishments of assessment program:	•District and state test scores announced publicly

USI Leadership, Governance, and Management

Superintendent:	•Interim Superintendent
USI Office:	•3 Project Directors during tenure of USI: remaining core USI staff remained stable
Community Key Personnel:	
Teacher Leaders:	•Lead Teachers

Partnerships

Other Key Initiatives:	•Title I •Curriculum Frameworks •Eisenhower •Secondary Funds • Louisiana Systemic Initiatives •The Louisiana Collaborative for Excellence in the Preparation of Teachers (LaCEPT)
Community Stakeholders:	•Children's Museum •Greater New Orleans Foundation •Greater New Orleans Ministerial Alliance
Higher Education:	•University of New Orleans •Delgado University •Xavier University •Loyola University
Business and Industry:	•Texas Instruments •Johnson O'Malley •Shell •McRel Consultants •FreeNet • Delta Scientific •Dow Chemical •Dupont Chemicals •North Star Consulting •Metrovision
Other Partnerships:	•American Chemical Society •Chambers of Commerce

Policy Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	•The district initiated a Five-Year Strategic Plan which included plans to ensure quality math and science that "illuminated the need for rigorous academics, professional development, assessment, technology, accountability, and adequate financial and administrative support.
1995-96	•A district policy of retention in grades K-3 was eliminated
1996-97	•State policy was established which directs 12 hours of math and 12 hours of science for elementary certification •Introduction of Louisiana State School Performance Model & Four-Year Action Plan to improve student achievement •The inclusion of USI benchmarks in all School Improvement Plans, and working in close collaboration and partnership with all district initiatives
1997-98	•Algebra I is made available to all 8th graders
1998-99	

Curriculum and Instruction Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	•Major teaching method employed was lecture •Very little "hands-on" manipulative activities in mathematics and science classrooms •No standard delivery of instruction •Current research not used in teaching •No centralized movement or department for improving the quality of mathematics and science instruction •Approximately 80% of the high schools did not offer AP courses •Remedial courses existed in math • Integration of technology and computers in the classroom very slow
1995-96	•Formulation of a working definition, curriculum review team and research towards a curriculum plan, exemplary programs plan.
1996-97	•District applied for and received a waiver from the State of Louisiana to implement integrated science courses in G6, 7, and 8 •Restructured the mathematics and science curriculum to, correlated with State of Louisiana published frameworks, based on national standards in grade level benchmarks. •Integrated science K-G8 focusing on exemplary mathematics and science curriculum programs •Incorporated standards-based courses at G9-12 •Offered special topic electives at G11-12 •Correlated curriculum objectives to state assessments
1997-98	•The State of Louisiana, after adopting the Louisiana Frameworks for the academic areas in, mandated that local districts develop and implement standards-based curriculum for all students •NOPS received a LEARN grant for 1997; and through those funds and USI, standards based curriculum guides were developed • Solid science program in place in all elementary schools through the standards based exemplary program FOSS; and in partnership with the University of New Orleans BIOTOOLS is offered •Completed standards-based, inquiry-based math and science curriculum guides with an explanation of how to implement the district standards and benchmarks through the use of adopted materials and disseminated the guides to all teachers and schools to use •Adopted exemplary standards-based curriculum materials/textbooks in math and science which included inquiry-focused activities as well as conceptual knowledge for all math and science students •Provided software and Internet resources linked to math and science curriculum frameworks/standards, grade-level benchmarks, and curriculum materials •Completed science curriculum guide for implementing standards and benchmarks with adopted materials. •Adopted new standards-based curriculum, materials, and textbooks in mathematics and science

Professional Development Policy and Program Changes to Support Teachers During USI Implementation

School Year	Policy Implemented
Before USI	▪ Science & math teachers obtained professional development themselves without district help. ▪During 1994-95 741 teachers in 13 schools participated in professional development activities at the awareness level in math/science content and standards, and technology integration. Approximately 120 Lead Teachers from those schools also received training ▪The professional development system for math and science teachers was obtained by the teachers themselves or offered through outside seminars and training ▪Professional development lacked special emphasis in curriculum planning, lesson plans, teacher certification, specialized (subject-matter) instructional strategies, technology education, and school reform issues
1995-96	▪Two composite days added to the school year for planning and staff development ▪ Approximately 1050 teachers and administrators were added as participants in the USI professional development activities. Training consisted of math and science exemplary programs, technology integration, and curriculum integration ▪Formulation of a professional development model-cadres, lead teachers, principals, and administrative support teams to build capacity at the school sites in curriculum and instructional changes ▪State mandated professional development days were further developed for awareness of the standards-based curriculum, teaching strategies and instruction and initial teacher certification program ▪USI District Academy Model and Capacity Building established to coordinate all staff development activities toward strategic reform, address school and teacher needs; plan to be focused on needs assessment and established cadres, lead teachers, school-site; -teams; including cabinet, core teams and principals. ▪Standards-based mathematics and science curriculum training. Awareness and TQM training teachers and administrators in USI Cohort I & II schools received training in mathematics and science content and standards, technology integration and curriculum integration -collaborative project- July 1996-August1996
1996-97	▪LASIP - Region I Partnership Initiative identified some USI exemplary trained teachers and New Orleans area teachers to serve as master/mentor teachers in collaboration with the LA LEARN for the 21st Century Consortium (Comprehensive Plan To Improve Education) ▪USI started staff development activities for all math, science, technology teachers for the summer 1996 (June-August). Training consisted of math, science and technology Lead Teacher Training, cadre training, Internet and technology integration training, mathematics and science content standards, Pre-K teacher and aides training, etc.
1998-99	▪Calculus AP is made available to more high schools ▪Standards-based curriculum guide completed ▪Contracted coordinators & external evaluator, University of New Orleans, to perform classroom visits and interviews to assess the degree of math and science curriculum development and implementation, the transformation and/or change in teaching approach ▪Hired an internal evaluator (data analyst) and external evaluator to provide ongoing formative analysis and evaluation on curriculum development and implementation, student achievement, and teacher professional development ▪Correlated and integrated appropriate learning technologies with state frame-works/standards, grade-level benchmarks, and district-adopted curriculum programs ▪Provided software and Internet resources linked to curriculum frameworks/standards, grade-level benchmarks, and curriculum materials, and build staff capacity for integrating technology into thinking/learning process for all students and teachers

1997-98	•Required teachers to participate in a minimum of 40 hrs. content-intensive professional development in order to receive the materials for use in their classroom •Lead Teachers in each school provide ongoing professional development, site leadership, & support for improving education in math, science, and technology for all teachers •Summer of 1998, Lead Teachers became familiar & trained with NCTM Math Standards and NRC Science Standards and participated in Math & Science •Professional Development Institutes in math and science content matter through Cadre teachers, university faculty, guest consultants, and industry experts
1998-99	•University of New Orleans faculty provided training and assistance to the USI Coordinators in curriculum planning, lesson planning and evaluation, and school improvement plans, teacher individual growth plans, teacher certification, and professional development •The USI Project Director and the USI Curriculum Manager were put in charge of standards-based curriculum implementation and training for all subjects in the district •Technology training for a team from each school to learn about the use of integrating technology into the classroom activities

Standards-based Assessment System Changes During USI Implementation

School Year	Policy Implemented
Before USI	• State standards-based assessment was consisted of California Achievement Test (CAT) and Louisiana Educational Assessment Program Materials (LEAP)
1995-96	• No changes reported
1996-97	• No changes reported
1997-98	• Testing required at the secondary level
1998-99	• Criterion reference test's will be administered at G 4 and 8, rather than G 3, 5, 7 • Norm referenced test's will be administered at G 3, 5, 7, rather than 4, 6, & 8

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School District Progress Report

March 2002

Philadelphia

Urban School Key Indicators of Science and Mathematics Education: 2001

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Philadelphia USI

Project Information

USI Project Title: Philadelphia USI
Cohort: 94 (Sept. 95 - Aug. 00)
USI Web Site:

♦ PI, CO-PI and PD

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♦ USI Data Manager/Evaluator

Data Manager/Pupil Data Analyst
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♦ Mailing Address

School District of Philadelphia
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♦ USI Schools Math & Sci. Teachers and Students

99-00	Schools	Teachers	Students
K-G5 (Elementary)	175	5,229	96,396
G6-8 (Middle)	41	1,090	43,533
G9-12 (High)	36	853	55,122
Total	252	7,172	205,375 [*]

[*] Includes ungraded students

Project Summary

The Philadelphia Urban Systemic Initiative (PHUSI) seeks to develop and build upon K-12 networks within the School District's 22 K-12 feeder-pattern clusters. These networks consist of communities of students, teachers, principals, other staff, and parents from every school site within these 22 clusters. The PHUSI links these vertical networks within each cluster with cross-cluster (city-wide) networks that include science and mathematics teacher-leaders, technology liaisons, and principals. Through professional development and technical assistance in conjunction with the School District Teaching and Learning Network, PHUSI helps every site develop and implement a School Improvement Plan focused on standards-driven learning goals in science and mathematics for all students and ensures alignment of curriculum, instruction, assessment, resources, professional development, parent involvement, and community partnerships with these quality learning goals. PHUSI coordinates with other School District offices to develop both human and electronic networks as well as databanks of effective SMT programs, professional development resources, and performance assessment items. PHUSI seeks to connect every school/cluster with SMT community partners that include universities, businesses/industries, professional organizations, museums, and government agencies.

Project Goals

- To implement a standards-based, K-12 science, mathematics, and technology curriculum.
- To enact a systemic professional development program incorporating extant NSF-funded programs and site-based professional development.
- To begin performance-based student assessment to complement traditional assessments.
- To produce an extensive student support services network developed in conjunction with the School District Offices and various community partners.
- To develop parent and community partnerships to support science, mathematics, and technology education.

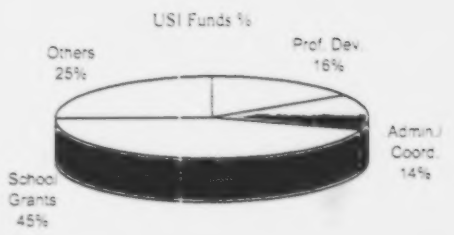
Selected School Indicators (District Average)

	94-95	99-00	Change
%Special Ed.	-	15.6%	-
%LEP	4.4%	5.4%	+1.0 PP
%FRL	89.0%	89.0%	+0.0 PP
%Daily Ave. Atten.	84.5%	-	-
%Average Retained	10.4%	-	-
%Drop-Out	8.2%	7.4%	-0.8 PP
%Mobility	-	-	-
Per Pupil Cost ($)	5,379	7,331	+36.3%
Num of Students Per Computer	-	-	-
% Classrooms Internet Access	-	-	-
Average Class Size	32	-	-

-(-) Missing Data PP Percentage Points

District and USI Fund Utilization (SY 1999-00)

	District	USI
Prof. Dev.	12%	16%
Admin./Coord.	7%	14%
School Grants	24%	45%
Others	57%	25%
Total	100%	100%



Philadelphia USI

Student Demographics (SY 1999-00)

District Total:	205,375	
USI Schools:	205,375	100%

♦ Race/Ethnicity

	94-95	99-00	%	% Change
Ame. Ind./Ala. Nat.	323	366	0.2%	+13.3%
Asian/P. Islander	9,584	9,806	4.8%	+2.3%
Black	133,060	132,954	64.7%	-0.1%
Hispanic	22,819	25,960	12.6%	+13.8%
White	44,476	36,289	17.7%	-18.4%
Other	•	•	•	•
Total	210,262	205,375		-2.3%
URM Total	156,202	159,280	77.6%	+2.0%

URM: Underrepresented Minority students.

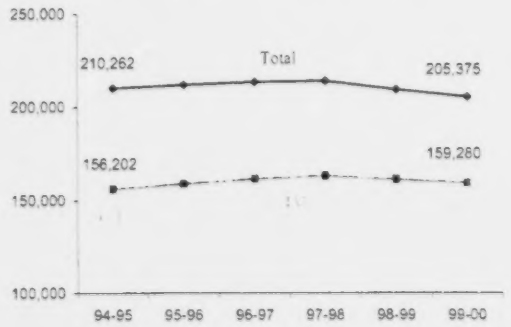
♦ Gender

Male	106,770	104,274	50.8%	-2.3%
Female	103,492	101,101	49.2%	-2.3%

♦ Grade

K-G5	99,520	96,396	46.9%	-3.1%
G6-8	41,329	43,533	21.2%	+5.3%
G9-12	59,015	55,122	26.8%	-6.6%
Ungraded	10,398	10,324	5.0%	-0.7%

♦ District-Wide Student Demographic Trends



(•) Missing Data

12th Grade Graduates

	94-95	99-00	Change
Total 12th Grade	8,942	9,994	+12%
Earned a Diploma	7,824	9,943	+27%
% Earned Diploma	87%	99%	+12 PP

% Earned Diploma

College Entrance

	94-95	99-00	Change
2 Yr College	•	•	•
4 Yr College	•	•	•
Other Post-Secon.	•	•	•
Total C. E.	•	•	•
% C. E./Earned Dip.	•	•	•

% College Entrance

High School Graduation Requirements 99-00

- ♦ Mathematics
  - 4 Credits in Mathematics required
- ♦ Science
  - 4 Credits in Science required

PP: Percentage Points

Math and Science Teachers & Certification

♦ Mathematics (G6-12)

		95-96	99-00	Change
G6-8	Teachers	96	630	+556%
	Certified	•	•	•
	% Cert.	•	•	•
G9-12	Teachers	425	449	+6%
	Certified	•	•	•
	% Cert.	•	•	•
Total	Teachers	521	1,079	+107%
	Certified	•	•	•
	% Cert.	•	•	•

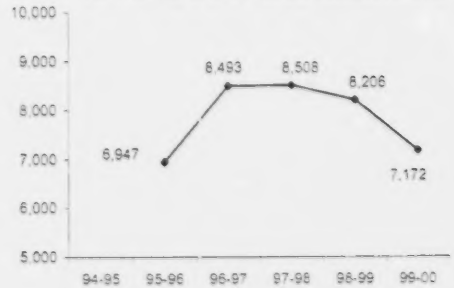
♦ Science (G6-12)

		95-96	99-00	Change
G6-8	Teachers	57	460	+707%
	Certified	•	•	•
	% Cert.	•	•	•
G9-12	Teachers	383	404	+5%
	Certified	•	•	•
	% Cert.	•	•	•
Total	Teachers	440	864	+96%
	Certified	•	•	•
	% Cert.	•	•	•

♦ Math and Science (K-G5)

		94-95	99-00	Change
K-G5	Teachers	5,986	5,229	-13%

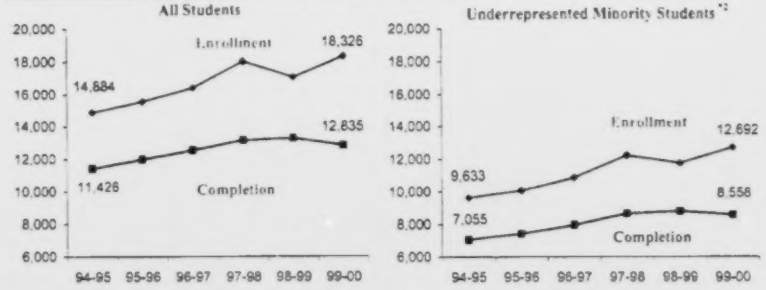
Total Number of Math and Sci. Teachers (K-G12)



Mathematics and Science Enrollment & Completion Trends/ All vs. URM

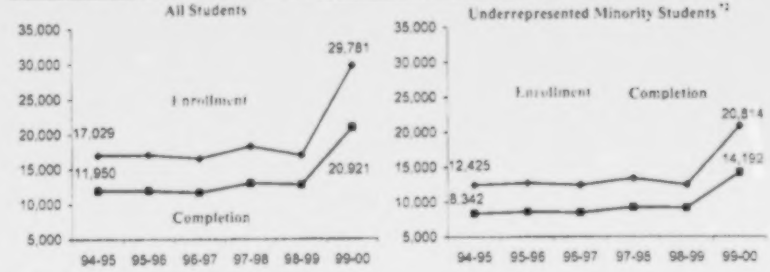
G 9-12 Mathematics Gate-Keeping Courses (Algebra II, Geo., and Calculus)

		94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		59,015	59,946	60,353	60,030	56,499	55,122
All Students	Enrollment	14,884	15,564	16,420	18,023	17,049	18,326
	Completion [*1]	11,426	11,986	12,547	13,129	13,265	12,835
	% Enroll/ G9-12	25%	26%	27%	30%	30%	33%
URM [*2]	Enrollment	9,633	10,082	10,869	12,227	11,756	12,692
	Completion [*1]	7,055	7,407	7,937	8,637	8,781	8,558
	% Enroll/ G9-12	22%	23%	25%	28%	28%	31%



G 9-12 Science Gate-Keeping Courses (Biology 1, Chem. 1, and Physics 1)

		94-95	95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		59,015	59,946	60,353	60,030	56,499	55,122
All Students	Enrollment	17,029	17,081	16,564	18,278	16,980	29,781
	Completion [*1]	11,950	11,930	11,681	13,021	12,754	20,921
	% Enroll/ G9-12	29%	28%	27%	30%	30%	54%
URM [*2]	Enrollment	12,425	12,712	12,413	13,353	12,417	20,814
	Completion [*1]	8,342	8,592	8,491	9,206	9,156	14,192
	% Enroll/ G9-12	29%	29%	28%	30%	30%	51%



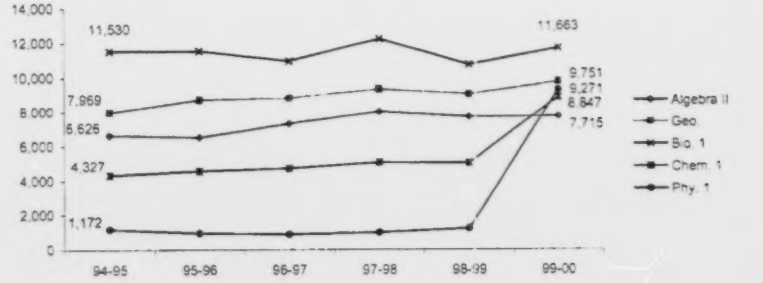
[*1] Successful completion: grade 'D' or above.

[*2] Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Mathematics and Science Enrollment & Completion Trends By Subject

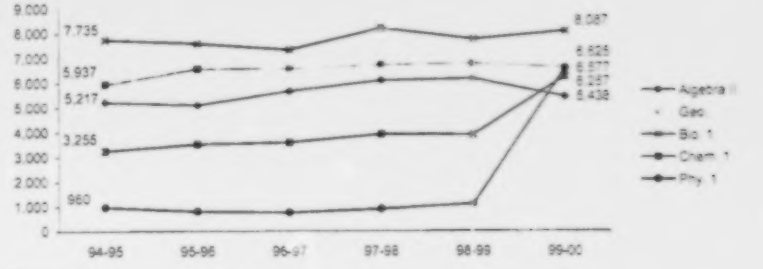
G 9-12 Course Enrollment (All Students)

	Algebra II	Geo.	Calculus [*3]	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
94-95	6,626	7,969	289	14,884	11,530	4,327	1,172	17,029
95-96	6,513	8,720	331	15,564	11,546	4,577	958	17,081
96-97	7,296	8,808	316	16,420	10,971	4,716	877	16,564
97-98	8,023	9,339	661	18,023	12,223	5,069	986	18,278
98-99	7,696	9,037	316	17,049	10,750	5,013	1,217	16,980
99-00	7,715	9,751	860	18,326	11,663	8,847	9,271	29,781



G 9-12 Course Completion [*1] (All Students)

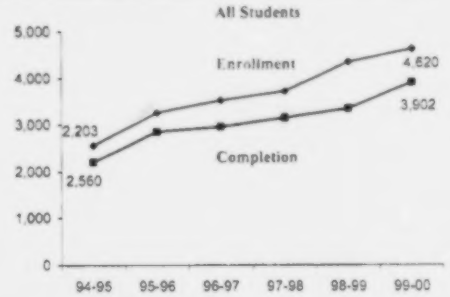
	Algebra II	Geo.	Calculus [*3]	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
94-95	5,217	5,937	272	11,426	7,735	3,255	960	11,950
95-96	5,106	6,570	310	11,986	7,591	3,536	803	11,930
96-97	5,663	6,581	303	12,547	7,332	3,597	752	11,681
97-98	6,107	6,731	291	13,129	8,209	3,919	893	13,021
98-99	6,177	6,783	305	13,265	7,755	3,905	1,094	12,754
99-00	5,438	6,625	772	12,835	8,087	6,257	6,577	20,921

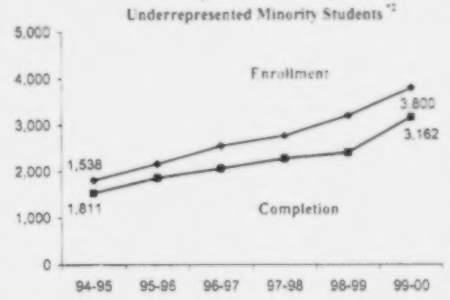


[*3] Calculus not represented on graph.

Algebra I or Above in 8th Grade Enrollment & Completion Trends/ All vs. URM

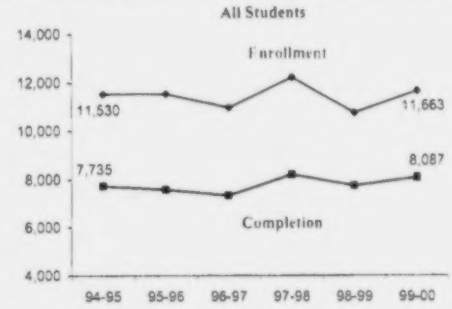
		94-95	95-96	96-97	97-98	98-99	99-00
Total G 8 Population		12,983	14,337	13,812	13,559	13,212	14,210
All Students	Enrollment	2,560	3,253	3,524	3,715	4,340	4,620
	Completion *1	2,203	2,847	2,952	3,140	3,341	3,902
	% Enroll/ G8	20%	23%	26%	27%	33%	33%
URM *2	Enrollment	1,811	2,165	2,549	2,770	3,196	3,800
	Completion *1	1,538	1,866	2,068	2,285	2,409	3,162
	% Enroll/ G8	19%	21%	25%	28%	32%	35%

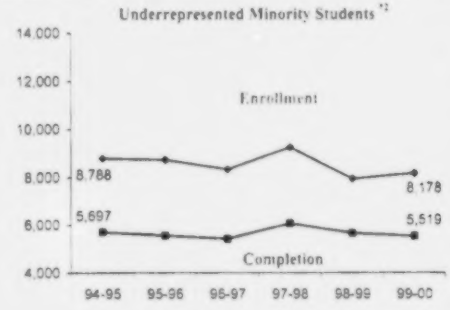




Biology Enrollment & Completion Trends/ All vs. URM

		94-95	95-96	96-97	97-98	98-99	99-00
All Students	Enrollment	11,530	11,546	10,971	12,223	10,750	11,663
	Completion *1	7,735	7,591	7,332	8,209	7,755	8,087
URM *2	Enrollment	8,788	8,726	8,338	9,242	7,939	8,178
	Completion *1	5,697	5,556	5,422	6,060	5,646	5,519





*1 Successful completion: grade 'D' or above.

*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

(.) Data Missing

Professional Development Participation of Teachers Teaching Mathematics and/or Science

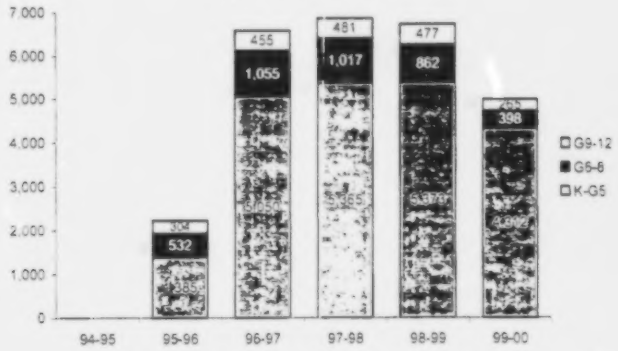
Total Number Teachers by Subject (G6-12)

	94-95	95-96	96-97	97-98	98-99	99-00
Mathematics		521	1,151	1,169	1,054	1,079
Science	440	1,031	1,025	977	864	

Total Number of Teachers Participating in PD by Grade Level

Teachers	94-95	95-96	96-97	97-98	98-99	99-00
Total K-G5		5,986	6,311	6,314	6,175	5,229
# K-G5 Participated		1,385	5,050	5,365	5,373	4,312
% K-G5 Participated		23%	80%	85%	87%	82%
Total G6-8	57	799	1,477	1,379	1,088	630
# G6-8 Participated	25	532	1,055	1,017	862	398
% G6-8 Participated		67%	71%	74%	79%	63%
Total G9-12	383	753	699	767	830	449
# G9-12 Participated	105	304	455	481	477	265
% G9-12 Participated	27%	40%	65%	63%	57%	59%

Number of Teachers Participating in Professional Development by Grade Level Taught



Number of Teachers by Duration of Professional Development

	94-95	95-96	96-97	97-98	98-99	99-00
1-59 Hours	.	1,493	4,231	4,559	5,440	4,065
60-119 Hours	.	700	2,063	2,033	1,060	744
120-200 Hours	.	28	266	271	212	166
More than 200 Hours		0	0	0	0	0

Philadelphia USI

District Assessment Test Administered

♦ Mathematics

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name		SAT9	SAT9	SAT9	SAT9	SAT9
Scoring		PC, SS	PC, SS	PC, SS	PC, SS	PC, SS
Grade		2-4,7-8,10-11	2-4,7-8,10-11	2-4,7-8,10-11	2-4,7-8,10-11	2-4,7-8,10-11
Type		NRT, CRT	NRT	NRT	NRT	NRT

♦ Science

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name		SAT9	SAT9	SAT9	SAT9	SAT9
Scoring		PC, SS	PC, SS	PC, SS	PC, SS	PC, SS
Grade		2-4,7-8,10-11	2-4,7-8,10-11	2-4,7-8,10-11	2-4,7-8,10-11	2-4,7-8,10-11
Type		NRT	NRT	NRT	NRT	NRT

State Assessment Test Administered

♦ Mathematics

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name	PSSA	PSSA	PSSA	PSSA	PSSA	PSSA
Scoring	PC, SS	PC, SS	PC, SS	PC, SS	PC, SS	PC, SS
Grade	5,8,11-12	5,8,11	5,8,11	5,8,11	5-6,8-9,11	5,8,11
Type	NRT	NRT	NRT	NRT	NRT	NRT

♦ Science

	94-95	95-96	96-97	97-98	98-99	99-00
Test Name						
Scoring						
Grade						
Type						

* SAT9: Stanford Achievement Test - 9th Edition * PSSA: Pennsylvania System of School Assessment

PC: Percentile SN: Stanine PL: Performance Level

PF: Pass/Fail SS: Scaled Score OT: Other

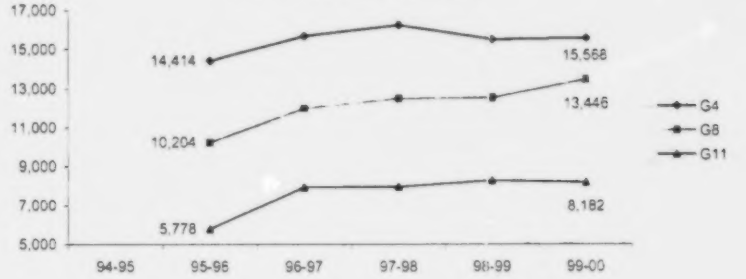
NRT: Norm-Referenced Test CRT: Criterion-Referenced Test

District Assessment Test-Taker Trends SAT9

♦ Mathematics

# of Test-takers	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4	.	14,414	15,688	16,242	15,502	15,568
Grade 8	.	10,204	12,019	12,507	12,538	13,446
Grade 11	.	5,778	7,950	7,960	8,288	8,182

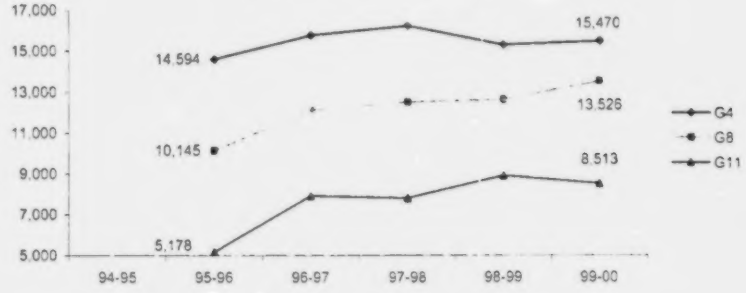
Total number of students taking test



♦ Science

# of Test-takers	94-95	95-96	96-97	97-98	98-99	99-00
Grade 4	.	14,594	15,757	16,222	15,297	15,470
Grade 8	.	10,145	12,128	12,510	12,628	13,526
Grade 11	.	5,178	7,925	7,805	8,911	8,513

Total number of students taking test

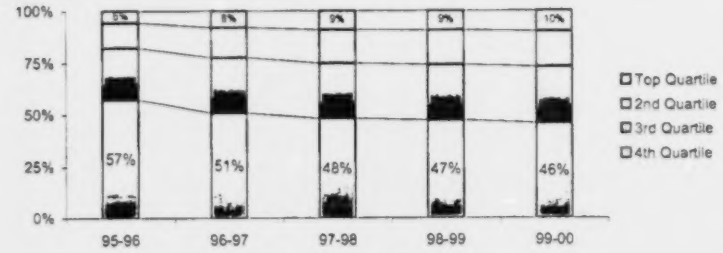


(.) Data Missing

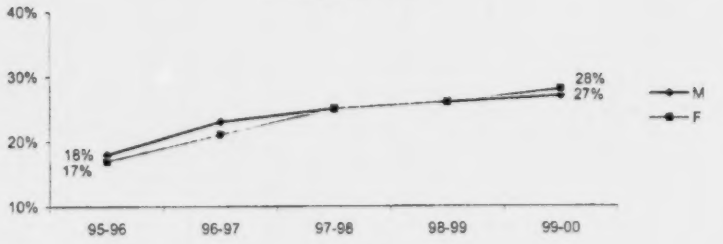
District Assessment Test Result Trends SAT9 - Mathematics

♦ **Grade 4**

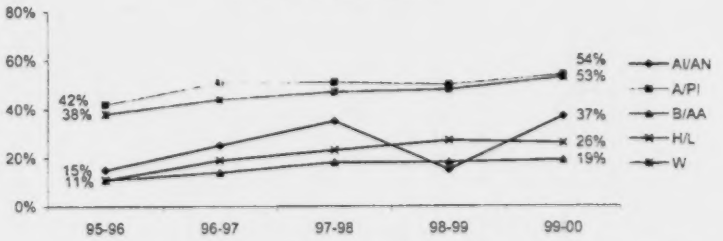
Quartiles	94-95	95-96	96-97	97-98	98-99	99-00
Top Quartile	.	6%	8%	9%	9%	10%
2nd Quartile	.	12%	15%	16%	17%	17%
3rd Quartile	.	25%	27%	27%	27%	27%
4th Quartile	.	57%	51%	48%	47%	46%
Total num of students	.	14,414	15,688	16,242	15,502	15,568



% Passing by Gender



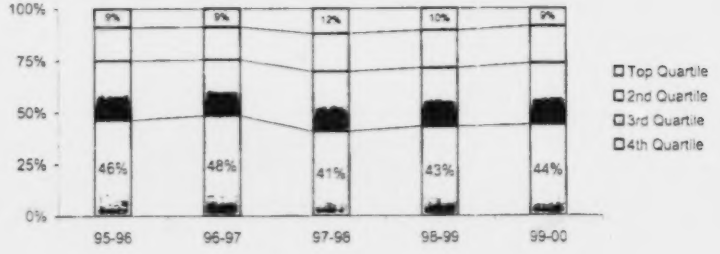
% Passing by Race/Ethnicity



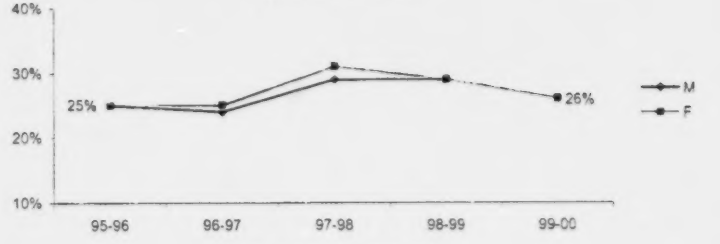
District Assessment Test Result Trends SAT9 - Mathematics

♦ **Grade 8**

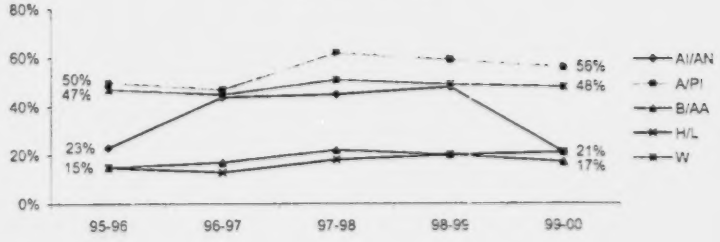
Quartiles	94-95	95-96	96-97	97-98	98-99	99-00
Top Quartile	.	9%	9%	12%	10%	9%
2nd Quartile	.	16%	16%	18%	18%	18%
3rd Quartile	.	29%	27%	29%	28%	30%
4th Quartile	.	46%	48%	41%	43%	44%
Total num of students	.	10,204	12,019	12,507	12,538	13,446



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as Top Quartile + 2nd Quartile

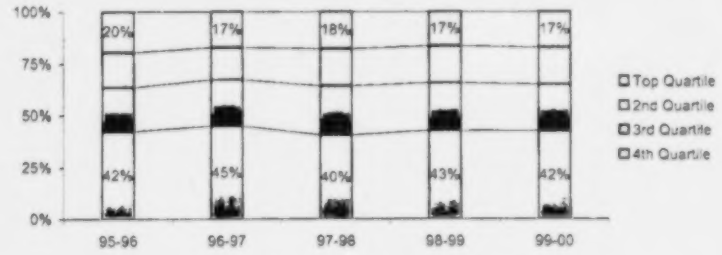
(.) Data Missing

Philadelphia USI

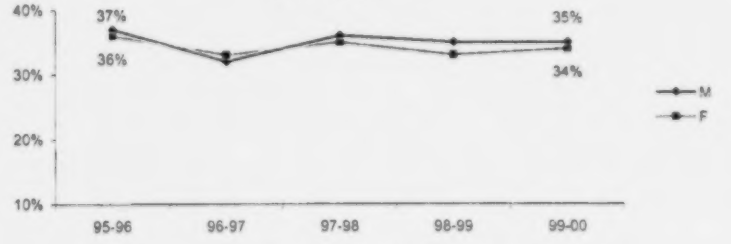
District Assessment Test Result Trends SAT9 - Mathematics

♦ **Grade 11**

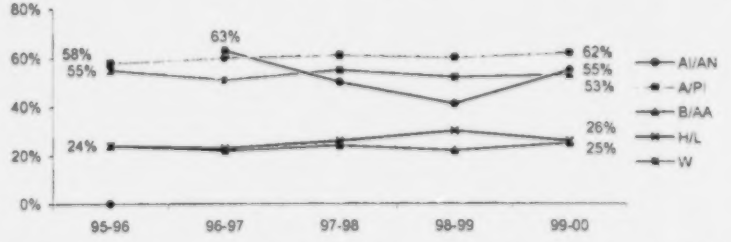
Quartiles	94-95	95-96	96-97	97-98	98-99	99-00
Top Quartile	.	20%	17%	18%	17%	17%
2nd Quartile	.	17%	15%	18%	17%	18%
3rd Quartile	.	22%	23%	24%	23%	23%
4th Quartile	.	42%	45%	40%	43%	42%
Total num of students	.	5,778	7,950	7,960	8,288	8,182



% Passing by Gender



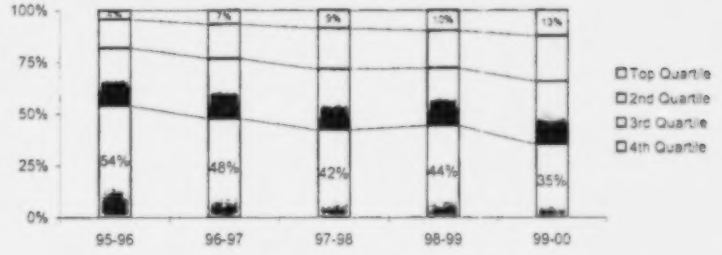
% Passing by Race/Ethnicity



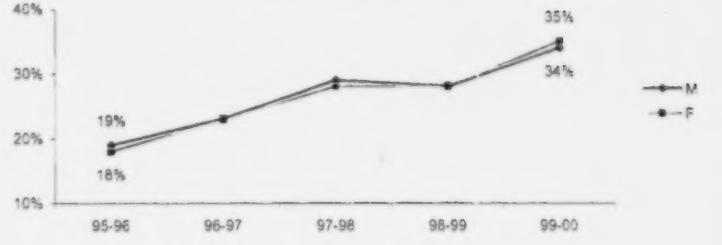
District Assessment Test Result Trends SAT9 - Science

♦ **Grade 4**

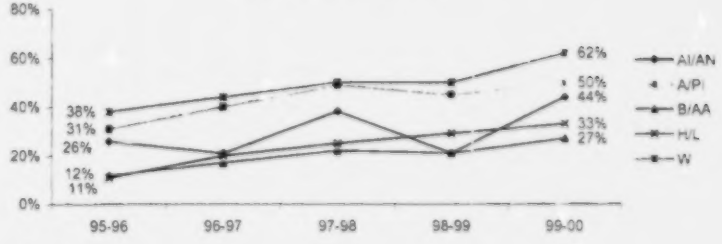
Quartiles	94-95	95-96	96-97	97-98	98-99	99-00
Top Quartile	.	4%	7%	9%	10%	13%
2nd Quartile	.	14%	16%	20%	18%	22%
3rd Quartile	.	28%	29%	29%	28%	30%
4th Quartile	.	54%	48%	42%	44%	35%
Total num of students	.	14,594	15,757	16,222	15,297	15,470



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

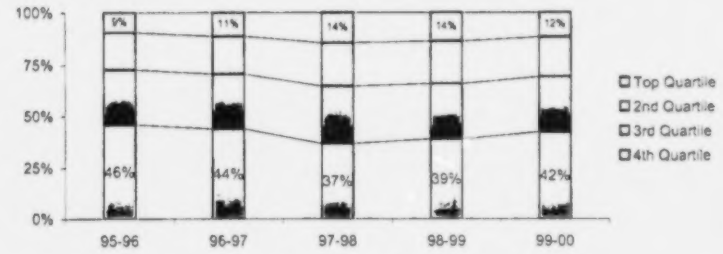
% Passing defined as Top Quartile + 2nd Quartile (.) Data Missing

Philadelphia USI

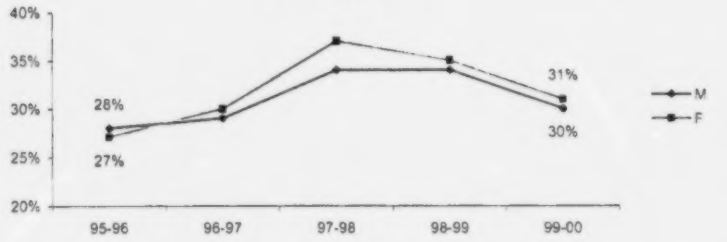
District Assessment Test Result Trends SAT9 - Science

♦ **Grade 8**

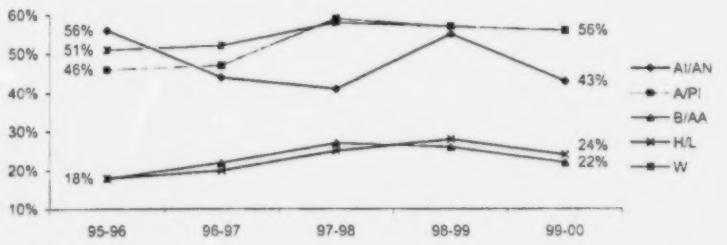
Quartiles	94-95	95-96	96-97	97-98	98-99	99-00
Top Quartile	.	9%	11%	14%	14%	12%
2nd Quartile	.	18%	18%	21%	21%	19%
3rd Quartile	.	27%	27%	28%	27%	27%
4th Quartile	.	46%	44%	37%	39%	42%
Total num of students	.	10,145	12,128	12,510	12,628	13,526



% Passing by Gender



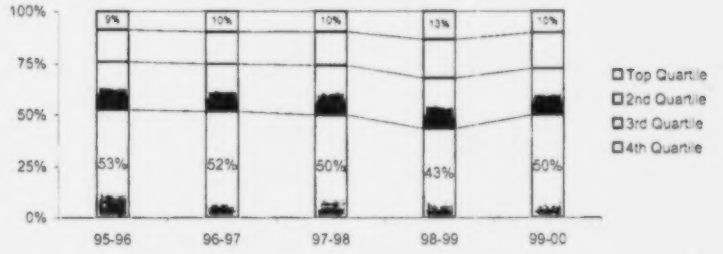
% Passing by Race/Ethnicity



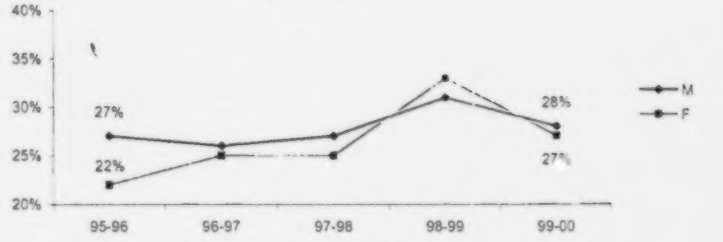
District Assessment Test Result Trends SAT9 - Science

♦ **Grade 11**

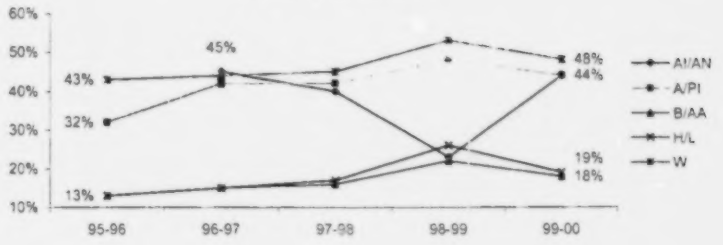
Quartiles	94-95	95-96	96-97	97-98	98-99	99-00
Top Quartile	.	9%	10%	10%	13%	10%
2nd Quartile	.	15%	15%	16%	19%	17%
3rd Quartile	.	24%	23%	24%	25%	23%
4th Quartile	.	53%	52%	50%	43%	50%
Total num of students	.	5,178	7,925	7,805	8,911	8,513



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as Top Quartile + 2nd Quartile

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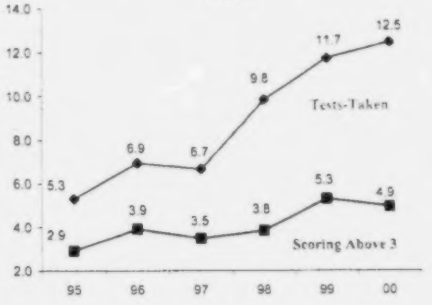
Philadelphia USI

AP Mathematics Test Result Trends ♦ **AP Mathematics (Calculus AB, Calculus BC, & Statistics)**

♦ **AP Mathematics - Total Number of Tests Taken**

		95	96	97	98	99	00
	Total Num of 11th & 12th	20,940	21,205	21,471	21,585	21,569	21,436
Tests Taken	Calc. AB	85	117	117	141	180	188
	Calc. BC	26	30	26	35	48	50
	Statistics	0	0	0	36	25	29
	Total	**111**	**147**	**143**	**212**	**253**	**267**
	Num of tests-taken/1,000 stu.	5.3	6.9	6.7	9.8	11.7	12.5
	Scoring Above 3	61	83	75	83	114	106
	Num of Above 3/ 1,000 students	2.9	3.9	3.5	3.8	5.3	4.9

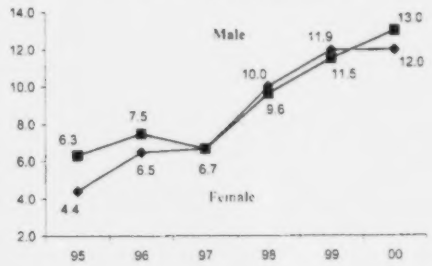
Number of tests taken and scoring above 3 per 1,000 students



♦ **AP Mathematics - Number of Tests Taken By Gender Per 1,000 Students**

		95	96	97	98	99	00
Tests Taken per 1,000	Male	6.3	7.5	6.7	9.6	11.5	13.0
	Female	4.4	6.5	6.7	10.0	11.9	12.0

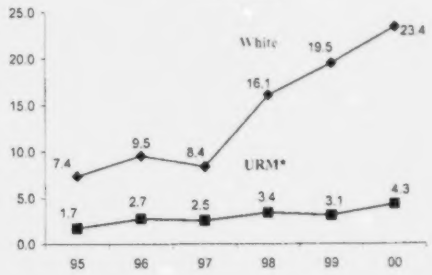
Number of tests taken per 1,000 students by Gender



♦ **AP Mathematics - Number of Tests Taken By Race/Ethnicity Per 1,000 Students** [*1]

	95	96	97	98	99	00
AI/AN	0.0	58.8	0.0	0.0	0.0	0.0
A/PI	27.3	33.3	39.4	40.0	57.6	42.1
B/AA	1.8	2.9	2.7	3.6	3.2	4.7
H/L	1.2	0.6	1.7	2.1	2.5	1.5
W	7.4	9.5	8.4	16.1	19.5	23.4

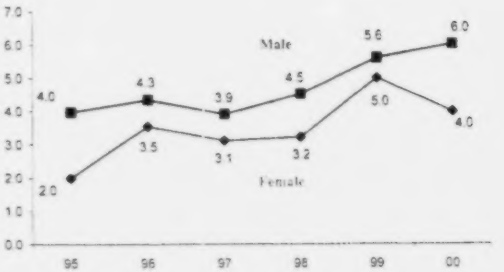
Number of tests taken per 1,000 students by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented

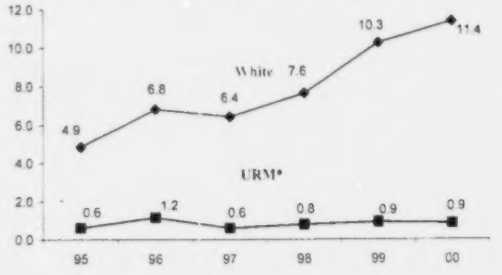
♦ **AP Mathematics - Number of Students Scoring Above 3 By Gender per 1,000 Students**

		95	96	97	98	99	00
Score Above 3 per 1,000	Male	4.0	4.3	3.9	4.5	5.6	6.0
	Female	2.0	3.5	3.1	3.2	5.0	4.0



♦ **AP Mathematics - Number of Students Scoring Above 3 By Race/Ethnicity Per 1,000 Students** [*1]

	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0	0.0
A/PI	17.2	18.2	22.3	17.5	26.4	16.6
B/AA	0.6	1.3	0.6	0.8	0.8	1.0
H/L	0.6	0.0	0.6	1.0	1.5	0.0
W	4.9	6.8	6.4	7.6	10.3	11.4



*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

Philadelphia USI

AP Science Test Result Trends • AP Science (Biology, Chemistry, Environ. Sci., Phy. B, Phy. C Mech., & Phy. C Elec.

• AP Science - Total Number of Tests Taken

		95	96	97	98	99	00
	Total Num of 11th & 12th	20,940	21,205	20,750	21,585	21,569	21,436
Tests Taken	Biology	52	46	88	69	111	102
	Chem.	82	84	70	128	132	134
	Enviro. Sci.	0	0	0	15	22	12
	Physics B	60	72	59	91	130	116
	Ph. C Mech.	11	13	12	15	38	27
	Ph. C Elec.	10	13	12	15	10	9
	Total	**215**	**228**	**241**	**333**	**443**	**400**
	Num of tests-taken/1,000 stu.	10.3	10.8	11.6	15.4	20.5	18.7
	Scoring Above 3	142	139	149	187	155	125
	Num of Above 3/ 1,000 students	6.8	6.6	7.2	8.7	7.2	5.8

• AP Science - Number of Tests Taken By Gender Per 1,000 Students

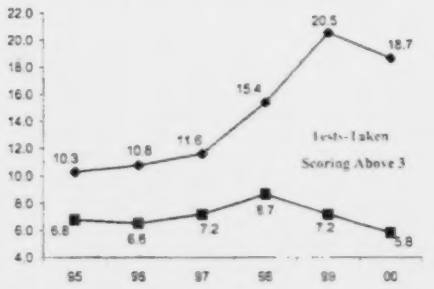
		95	96	97	98	99	00
Tests Taken per 1,000	Male	11.5	13.1	12.6	16.4	20.9	20.0
	Female	9.2	8.7	10.8	14.6	20.2	17.5

• AP Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students *1

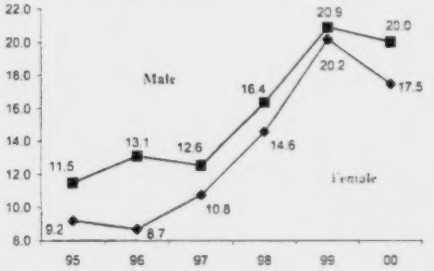
	95	96	97	98	99	00
AI/AN	0.0	235.3	0.0	0.0	0.0	95.2
A/PI	58.5	57.5	55.3	67.4	92.2	87.7
B/AA	8.3	9.9	11.2	15.5	18.3	17.8
H/L	4.3	1.1	1.0	3.1	5.0	5.4
W	15.5	20.0	27.6	35.0	40.4	39.9

AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
*1 "Other" category not presented

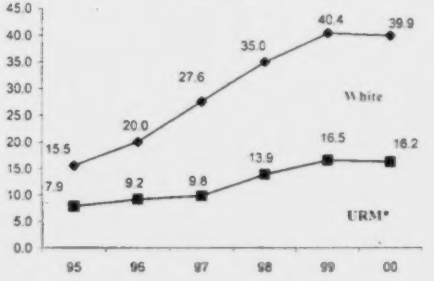
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender

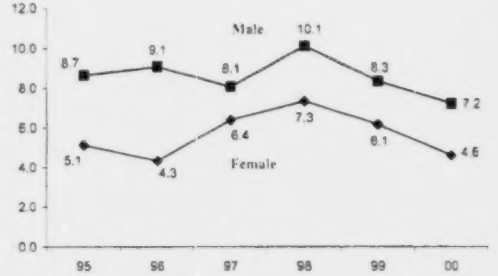


Number of tests taken per 1,000 students by Race/Ethnicity



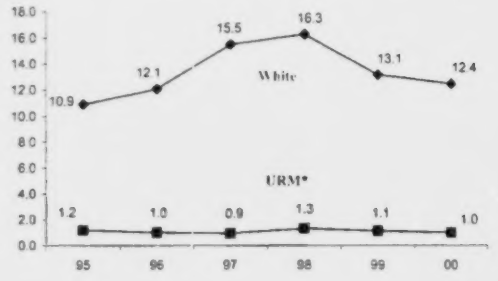
• AP Science - Number of Students Scoring Above 3 By Gender per 1,000 Students

		95	96	97	98	99	00
Score Above 3 per 1,000	Male	8.7	9.1	8.1	10.1	8.3	7.2
	Female	5.1	4.3	6.4	7.3	6.1	4.6



• AP Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students *1

	95	96	97	98	99	00
AI/AN	0.0	117.6	0.0	0.0	0.0	0.0
A/PI	42.1	40.1	36.2	47.0	34.7	26.9
B/AA	1.2	0.8	1.0	1.4	0.9	1.0
H/L	0.6	1.1	0.5	0.5	2.5	1.0
W	10.9	12.1	15.5	16.3	13.1	12.4



*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

Philadelphia USI

AP Computer Science Test Result Trends

• AP Computer Science - Total Number of Tests Taken

		95	96	97	98	99	00
Total Num of 11th & 12th students		20,940	21,205	20,750	21,585	21,569	21,436
Tests Taken	Comp. Sci A	21	19	37	2	35	27
	Comp. Sci. AB	9	31	23	25	9	11
	Total	**30**	**50**	**60**	**27**	**44**	**38**
Num of tests-taken/1,000 stu.		1.4	2.4	2.9	1.3	2.0	1.8
Scoring Above 3		7	15	14	10	10	19
Num of Above 3/ 1,000 students		0.3	0.7	0.7	0.5	0.5	0.9

• AP Computer Science - Number of Tests Taken By Gender Per 1,000 Students

		95	96	97	98	99	00
Tests Taken per 1,000	Male	2.2	4.0	4.2	1.8	3.0	3.1
	Female	0.7	0.9	1.7	0.7	1.1	0.6

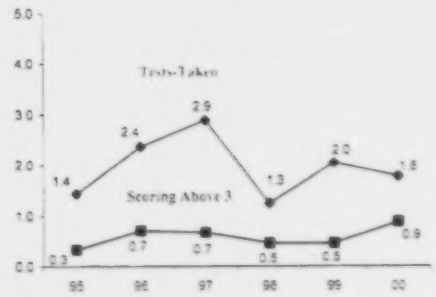
• AP Computer Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students *1

	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0	0.0
A/PI	9.4	11.4	11.3	2.1	4.2	3.5
B/AA	0.3	0.7	1.3	0.7	1.4	0.7
H/L	0.6	0.0	2.0	1.6	0.0	0.0
W	1.6	3.5	4.0	1.8	2.9	4.3

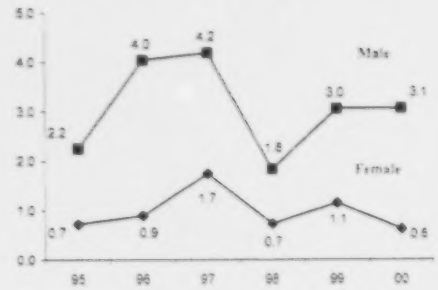
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
*1 "Other" category not presented

• AP Computer Science (Computer Science A & AB)

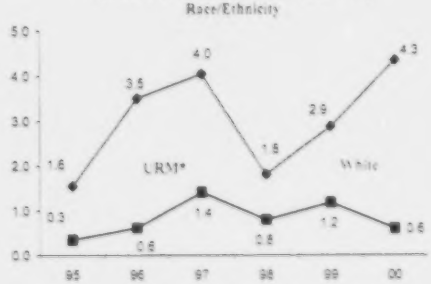
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender

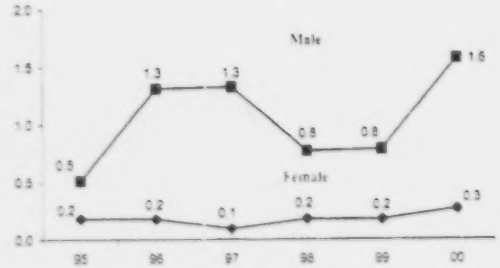


Number of tests taken per 1,000 students by Race/Ethnicity



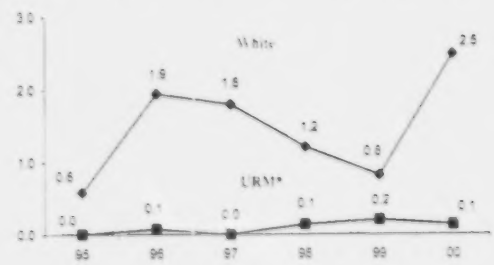
• AP Computer Science - Number of Students Scoring Above 3 By Gender per 1,000 Students

		95	96	97	98	99	00
Scores Above 3 per 1,000	Male	0.5	1.3	1.3	0.8	0.8	1.6
	Female	0.2	0.2	0.1	0.2	0.2	0.3



• AP Computer Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students *1

	95	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0	0.0
A/PI	2.3	1.5	3.5	0.7	1.4	2.1
B/AA	0.0	0.1	0.0	0.1	0.2	0.2
H/L	0.0	0.0	0.0	0.5	0.0	0.0
W	0.6	1.9	1.8	1.2	0.8	2.5



*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

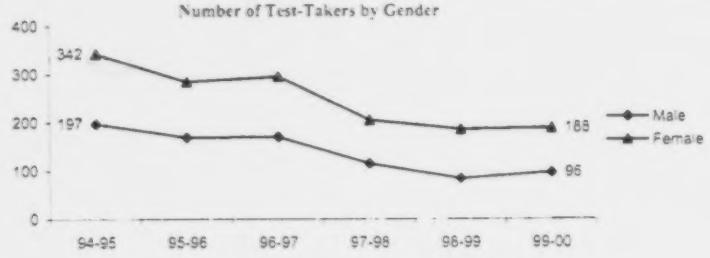
Philadelphia USI

ACT Test-Takers

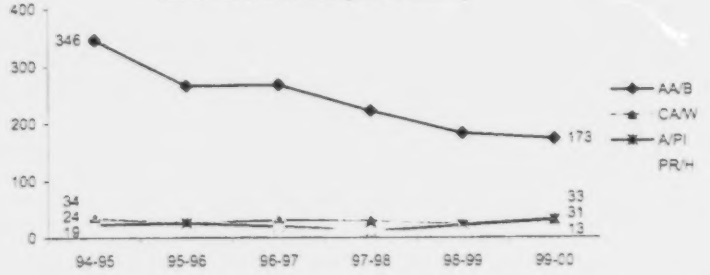
♦ **Number of Test-Takers**

		94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		8,989	9,116	9,333	9,547	9,689	9,909
Test-Takers		539	453	465	319	269	284
Num of Test-Takers/1,000 Stu		60	50	50	33	28	29
Gender	Male	197	169	170	115	83	96
	Female	342	284	295	204	185	188
Race/Ethnicity	AA/B	346	266	268	222	183	173
	AI/AN *1	2	1	1	1	0	0
	CA/W	34	26	31	30	24	33
	MA/C *1	0	0	0	1	1	1
	A/PI	24	26	20	11	22	31
	PR/H	19	11	17	12	10	13

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity

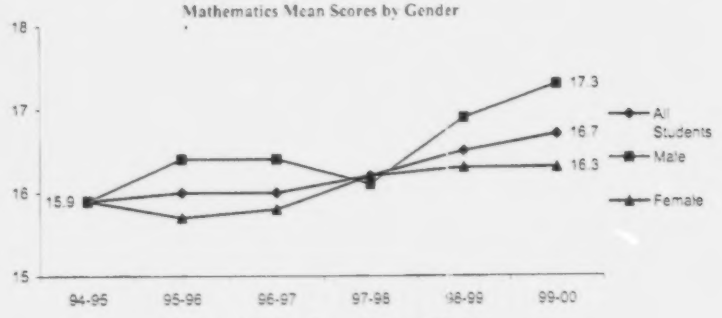


ACT Mathematics Scores

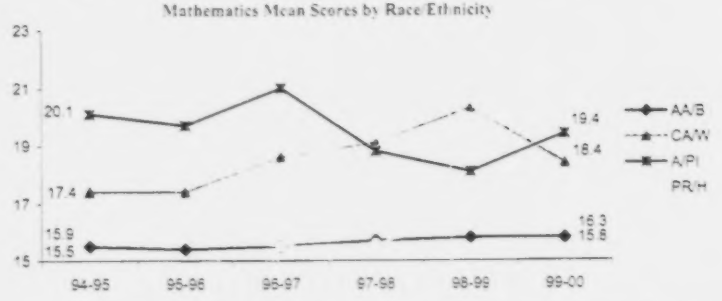
♦ **Mathematics - Mean Score Trends**

		94-95	95-96	96-97	97-98	98-99	99-00
All Students		15.9	16.0	16.0	16.2	16.5	16.7
Gender	Male	15.9	16.4	16.4	16.1	16.9	17.3
	Female	15.9	15.7	15.8	16.2	16.3	16.3
Race/Ethnicity	AA/B	15.5	15.4	15.5	15.7	15.8	15.8
	AI/AN *1	-	-	-	-	-	-
	CA/W	17.4	17.4	18.6	19.1	20.3	18.4
	MA/C *1	-	-	-	-	-	-
	A/PI	20.1	19.7	21.0	18.8	18.1	19.4
	PR/H	15.9	15.9	15.5	15.6	16.4	16.3

Mathematics Mean Scores by Gender



Mathematics Mean Scores by Race/Ethnicity



AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispa

*1 Number of Test-Takers less than 5 not presented on graph

*2 Mean scores not presented for sample size less than 5

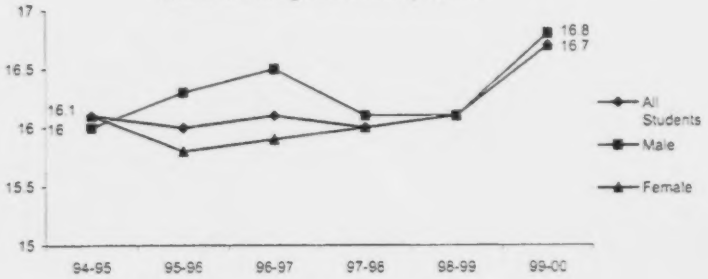
Philadelphia USI

ACT Science Reasoning Scores

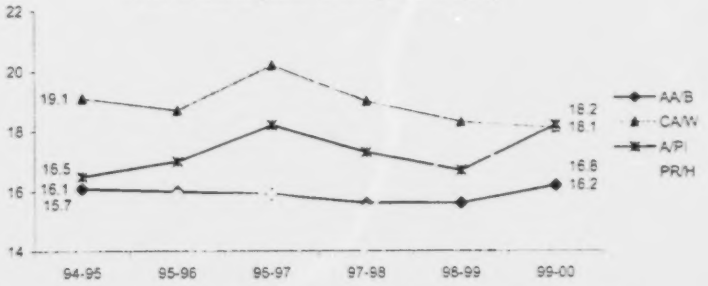
♦ Science Reasoning - Mean Score Trends

		94-95	95-96	96-97	97-98	98-99	99-00
All Students		16.1	16.0	16.1	16.0	16.1	16.7
Gender	Male	16.0	16.3	16.5	16.1	16.1	16.8
	Female	16.1	15.8	15.9	16.0	16.1	16.7
Race/Ethnicity	AA/B	16.1	16.0	15.9	15.6	15.6	16.2
	AI/AN [*]	-	-	-	-	-	-
	CA/W	19.1	18.7	20.2	19.0	18.3	18.1
	MA/C [*]	-	-	-	-	-	-
	A/PI	16.5	17.0	18.2	17.3	16.7	18.2
	PR/H	15.7	15.9	15.9	15.4	17.4	16.8

Science Reasoning Mean Scores by Gender



Science Reasoning Mean Scores by Race/Ethnicity



AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Caucasian/American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic

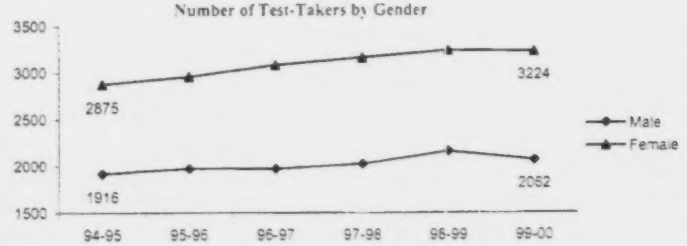
[*] Mean scores not presented for sample size less than 5

SAT Test-Takers

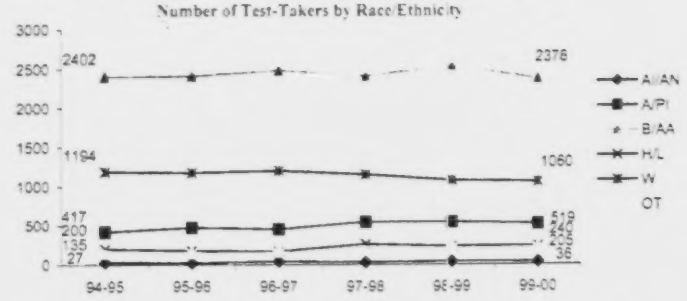
♦ Number of Test-Takers

		94-95	95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		8,989	9,116	9,333	9,547	9,689	9,909
Test-Takers		4,791	4,929	5,051	5,181	5,390	5,286
Num of Test-Takers/1,000 Stu		533	541	541	543	556	533
Gender	Male	1,916	1,972	1,970	2,021	2,156	2,062
	Female	2,875	2,957	3,081	3,160	3,234	3,224
Race/Ethnicity	AI/AN	27	22	37	28	40	36
	A/PI	417	471	449	543	543	519
	B/AA	2,402	2,409	2,482	2,412	2,539	2,378
	H/L	200	176	167	260	233	240
	W	1,194	1,179	1,202	1,156	1,077	1,060
	OT	135	135	153	177	215	205

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

Philadelphia USI

SAT Mathematics Scores

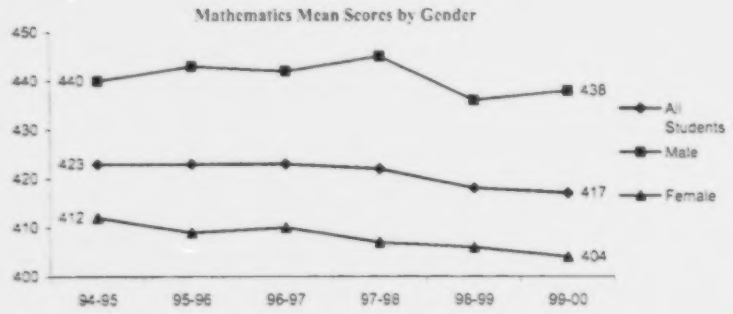
♦ Mathematics - Mean Score Trends

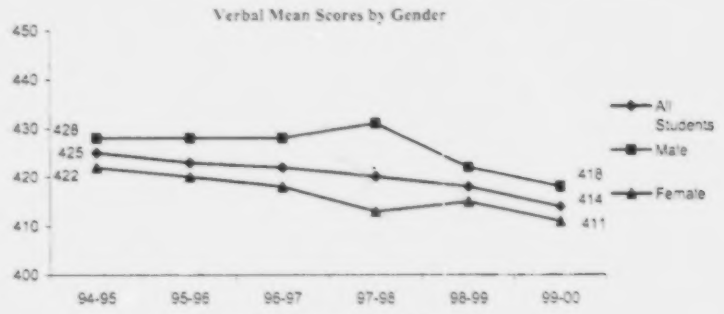
		94-95	95-96	96-97	97-98	98-99	99-00
All Students		423	423	423	422	418	417
Gender	Male	440	443	442	445	436	438
	Female	412	409	410	407	406	404
Race/Ethnicity	AI/AN	391	427	379	397	394	375
	A/PI	476	489	469	473	475	477
	B/AA	394	391	392	392	388	386
	H/L	402	411	419	407	410	414
	W	478	483	486	483	480	487
	OT	445	456	454	434	447	428

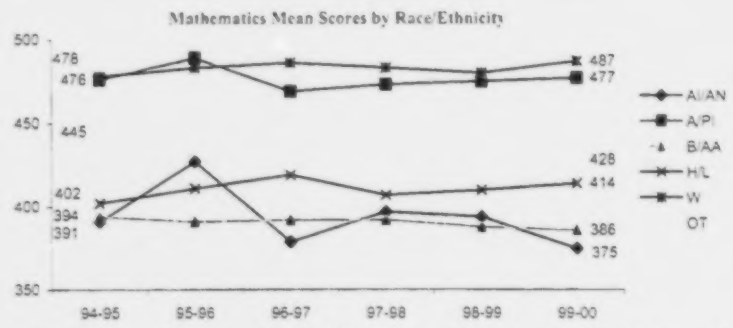
SAT Verbal Scores

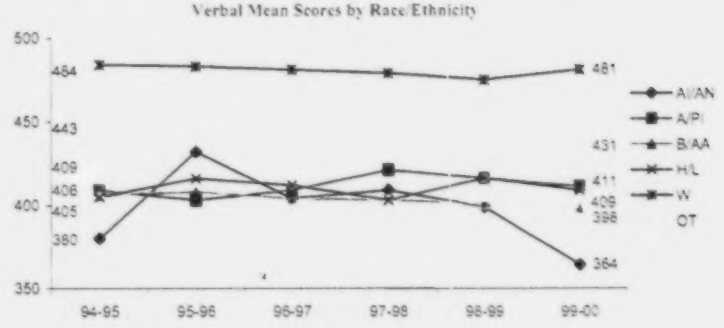
♦ Verbal - Mean Score Trends

		94-95	95-96	96-97	97-98	98-99	99-00
All Students		425	423	422	420	418	414
Gender	Male	428	428	428	431	422	418
	Female	422	420	418	413	415	411
Race/Ethnicity	AI/AN	380	432	404	409	399	364
	A/PI	409	403	409	421	416	411
	B/AA	406	408	404	403	401	398
	H/L	405	416	412	403	416	409
	W	484	483	481	479	475	481
	OT	443	455	471	446	451	431









AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

Philadelphia USI

Cohort/Scale-Up Approach

	95-96	96-97	97-98	98-99	99-00
Number of District Schools*:	*261*	*261*	*261*	261	260
USI Schools:	66	217	144	216	216
% Schools:		67%	95%	100%	100%

*Core Data Elements 2000-2001; ** K-1 2001

Italics: Data Imputed

Primary Decision Making Body

Standards Curriculum	District
Curriculum/TextBook Adoption	District
Student Assessment	District
Professional Development	District
Resources	District
Teacher Hiring	District
Teacher Contracts	District
Certification & Re-certification	State
Graduation Requirements	State
School-Based Management?	Yes

Policies Promoting Equal Access by All Students in High Quality Education

Student Tracking:
- No general mathematics or science courses offered at high school level
- Full inclusion model

Criteria for Entry into High Level Mathematics and Science Courses:

Availability of High Level Courses:
- Physical Setting Level I (Introduction to Earth/Space Science, Chemistry, Physics) is the G9 science course
- Algebra I or Integrated Mathematics I are the G9 mathematics courses

Special Education and Bilingual Students:
- The Office of Language Equity Issues was established to address the needs of ESOL/Bilingual Students

Policies Impacting the Enrollment of Students in Challenging Math and Science Courses

Attendance:

Guidance:

Student Support Systems:
- After school programs and summer school designed by clusters and schools

Policies Relevant to Curriculum

Framework:
- Philadelphia Curriculum Frameworks, 3rd. Edition

Curriculum:

Curriculum Materials:
- None reported

New Courses Added as a Result of USI:
- None reported

Instructional Time:
- Graduation requirements: 4 credits math and science by 6/2002

Standards-based Curriculum and Instruction

Standards Adopted:
- For content, NCTM benchmarks for science literacy, Pennsylvania State Academic Standards

Primary Instructional Strategies:
- Hands-on, inquiry oriented instruction

% of Students Experiencing Standards-based Mathematics Curricula:	E: 100% M: 100% H: 100%
% of Students Experiencing Standards-based Science Curricula:	E: 100% M: 100% H: 100%

Policies Relevant to Teacher Qualifications

Certification:
- State mandated content and pedagogy requirements

Requirement & Hiring Practices:

Professional Advancement & Leadership Training:
- Intern teachers are mentored by experienced teachers

Contract Requirements:

Professional Development Policies and Practices

Time Required or Supported:
- 40 hours per year: 20 hours after school or on Saturdays and 4 days during the school year

Financial Resources Provided:
- Annenberg Children Achieving Challenge Grant
- Eisenhower Funds
- Title I
- Perkins Fund
- Funds raised by partners such as the Philadelphia Education Fund

Alignment to Student Standards:
- All professional development must be focused in three priority areas, 1) literacy, mathematics and science, 2) best practices for school improvement, 3) equity and high performance

E: Elementary School M: Middle School H: High School

Philadelphia USI

Measurement of Impact:
- Research for Action collect and analyze data to determine the effectiveness of Children Achieving Reform Agenda and PHUSI

Type and Amount Received by Average Math/Science Teacher:
- Constructivist Model
- Effective Programs
- Content Knowledge
- Use of Technology
- Hands-on Inquiry Model
- 70 hours

Evaluation Instruments:

Professional Development Alignment to Content Standards Measures:

Teacher's Instructional Practices Evaluation:
- By principals using protocol developed with Philadelphia Federation of Teachers

Impact on Student Achievement:
- SAT/9 scores being analyzed

Policies Relevant to Standards-based Assessments

Extent to Which Assessments are Aligned to District Standards and Curriculums:
- End of term and proficiency exams are closely aligned with standards and curriculum for science and math.

Methods stakeholders are informed of goals, objectives and accomplishments of assessment program:
- Newspapers
- Billboards
- Public Service Announcements
- Cable Television
- Brochures
- Mail

USI Leadership, Governance, and Management

Superintendent:
- Deidre Fambry, Superintendent, Principal Investigator
- Nilsa Gonzalez, Associate Superintendent, Co-Principal Investigator

USI Office:
- Nathania Johnson, Project Director
- Ambra Hook, Curriculum Support-
- Linda Muskawski- Curriculum Support-Math
- Natalie Hiller- USI/Curriculum Support- Science
- Charlotte Foreman- USI, Mathematics
- Kathleen McKinley- USI, Mathematics
- Carolyn Minor, USI, Science
- USI project director reports directly to the associate superintendent.

Community Key Personnel:
- Mayor Edward Rendell

Teacher Leaders:
- Science and Mathematics Teacher-Leaders

Partnerships

Other Key Initiatives:

Community Stakeholders:
- Philadelphia Education Fund
- Franklin Institute
- Greater Philadelphia First Foundation
- City of Philadelphia
- Churches
- Service Organizations
- Community Organizations

Higher Education:
- Temple University
- University of Pennsylvania
- LaSalle University
- Drexel University
- Beaver College
- Chestnut Hill College
- Saint Joseph's University
- Pennsylvania State University
- College of New Jersey

Business and Industry:
- Texas Instruments
- Smith Kline Pharmaceutical

Other Partnerships:
- Academy of Natural Sciences
- Tinicum Wildlife Refuge
- Fairmount Park Commission
- Project 2061
- Philadelphia Zoo
- Public Library
- Franklin Institute

Philadelphia USI

Policy Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	•Science and Mathematics instruction was supported through funding within the School District Partner organizations (PATHS/PRISM), The Franklin Institute, and Universities offered additional resources •Classroom supervision was provided by Central Office science and mathematics supervisors and department heads/chairs in the high schools
1995-96	•Implementation of a new form of district organization, the K-12 feeder pattern cluster
1996-97	•Implementation of a professional responsibility system that hold administrators and teachers accountable for the achievement of students
1997-98	•Leadership in Education Apprentice Design (LEAD) program instituted to prepare new administrators for the position of school principal
1998-99	•Graduation and Promotion Requirements were adopted: 4 years of mathematics and science, success in city-wide midterm and finals, complete interdisciplinary and service learning projects, and a score of at least Basic on the SAT-9 science and mathematics •All schools were required to reorganize into small learning communities of 200-500 students
1999-00	•No changes reported
2000-01	•Graduation and promotion supports and requirements implemented

Curriculum and Instruction Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	•State frameworks to address state learning outcomes were not available •The School District was in the process of developing content standards and curriculum frameworks aligned with national standards •Many teachers reported inadequate resources, particularly in terms of mathematics and science •Many participants in the learning process express the belief that all students can learn; yet tracking at various levels provided evidence to the contrary
1995-96	•Development of content standards, aligned with national standards in English/Language Arts, Mathematics, Science •The School District of Philadelphia took the first steps to raise student achievement levels by adopting rigorous content standards designed to prepare all students to succeed in higher education and/or the workplace. Science was included one year earl •Creation of a Teaching Learning Network to support and be a resource for curriculum, instruction, and assessment strategies in the first 6 Clusters
1996-97	•Implemented a professional responsibility system based on the establishment of one set of rigorous standards for all students. The Performance Index is designed to provide an overall measure of progress in each school and set performance targets
1997-98	•Science and mathematics Curriculum Frameworks were adopted •Database of best practices including research-based successful teaching practices and curriculum programs was adopted
1998-99	•No changes reported
1999-00	•Course alignment process identified need for new and additional upper level math and science courses
2000-01	•Curriculum frameworks implemented •Ongoing and constant review of student educational needs

Professional Development Policy and Program Changes to Support Teachers During USI Implementation

School Year	Policy Implemented
Before USI	•Creation of support systems to assist schools-funding for professional development •The science and mathematics professional development was offered to selected groups of teacher leaders as funding and grants were available. Some middle schools had the opportunity to have science resource leaders trained through an NSF grant, and some •Citywide training was fragmented, unfocused, and funded inadequately
1995-96	•Adoption of Children Achieving Reform Agenda which provides the provision for six days of sustained professional development •Began Summer Professional Development Series to train teachers and administrators to implement new standards and policies. Topic-newly adopted Philadelphia Standards (Science, Mathematics, English/Language Arts) •1,800 parents, teachers and administrators attended summer professional development on the Philadelphia Standards and Benchmarks •150 K-12 science and mathematics teacher-leaders from 72 schools (PHUSI Cohort I, plus 5 schools that worked closely with the CETP at Temple University) received intensive professional development on SMT standards, content, instruction, assessment, equi
1996-97	•Continued Summer Content Series and added Fall Content Series to provide an opportunity for additional teachers and administrators to attend; topic: Moving Towards Standards Driven Teaching and Learning •1,300 teachers and administrators from 190 schools attended Summer and Fall Content Series for implementing mathematics and science standards in the classroom •PHUSI Cohort II Science and Mathematics teacher-leaders were added to the professional development program. (Addition of 103 schools, total teachers 570) •Cohort I teachers received training on effective programs, use of technology, content, and assessment. Cohort II followed the same schedule as Cohort I in 1995-96 •Graduate level content courses in science, mathematics and design technology (246 teachers) •Over 9,000 teachers received at least 4 hours of professional development in implementing the Philadelphia Standards
1997-98	•Developed standards for professional development to assist all levels of the district to make decisions based on best practices about design, format, delivery of content, selection of programs, resource materials, vendors and consultants •All professional development is focused on the goals and objectives of the district •Appointment of a Professional Development Council to align and coordinate all Central Office Professional Development. PHUSI is a member of the council •In Summer 1998, over 5,000 teachers and administrators participated in professional development-content institutes, cultural inclusion, leadership, mentoring, equity and technology •PHUSI added Cohort III (84 schools) for a total of 775 science and mathematics K-G12 teacher-leaders in training •Cohort I training focused on the implementation of effective programs, leadership skills, content knowledge and pedagogical skills •All PHUSI teacher-leaders were required to provide turnaround training for a minimum of 5 teachers at their school or cluster. (Impact 6,200 teachers) •All PHUSI teacher-leaders were required to provide turnaround training for a minimum of 5 teachers at their school or cluster. (Impact 6,200 teachers) •The Teaching and Learning Network provided monthly follow-up meetings for PHUSI teacher-leaders at the Cluster
1998-99	•Adopted The Comprehensive Professional Development Plan included in best practices and designed to empower all employees to develop the knowledge, skills, and behaviors required to create learning settings that enable all students to demonstrate high le • Over 1000 science and mathematics teachers attended PHUSI professional development focused on sustaining, supporting and expanding the implementation of effective science and mathematics programs.
1999-00	•No changes reported
2000-01	•Every science and math question on the SAT/9 was reviewed for alignment.

Standards-based Assessment System Changes During USI Implementation

School Year	Policy Implemented
Before USI	
1995-96	•Initial implementation of assessment and accountability system •The School District of Philadelphia introduced the Standard Achievement Test 9th Edition in order to establish benchmark city wide for students in G4,8 and 11
1996-97	•The Aprenda, Spanish-speaking version of the SAT-9 was used to ensure the validity of the SAT-9 for English as a second language students
1997-98	•No changes reported
1998-99	•Philadelphia added African-American, Hispanic American, and Asian American multicultural open-ended and multiple-choice items that are aligned to the curriculum to the SAT-9 •End-of-year final examinations
1999-00	•No changes reported
2000-01	•Math and science questions on SAT-9 aligned with curriculum and instruction

Urban School Key Indicators of Science and Mathematics Education

Volume I

Cohort 93

Baltimore
Chicago
Dallas
Detroit
El Paso
Miami-Dade
New York
Phoenix

Volume II

Cohort 94

Cleveland
Columbus
Fresno
Los Angeles
Memphis
New Orleans
Philadelphia

Volume III

Cohort 95

Milwaukee
San Antonio
San Diego
St. Louis

Cohort 97

Atlanta
Jacksonville

Cohort 99

Houston

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USI EVALUATIVE STUDY

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USI Urban Systemic Initiatives

Program Funded by National Science Foundation

Urban School Key Indicators of Science and Mathematics Education: 2001

Volume III Cohort 95, 97 & 99 School Districts

Cohort 95
Milwaukee
San Antonio
San Diego
St. Louis

Cohort 97
Atlanta
Jacksonville

Cohort 99
Houston

USI EVALUATIVE STUDY

How Reform Works:
An Evaluative Study of NSF's Urban Systemic Initiatives

March 2002

Based on Key Indicator Data System (KIDS-2001)

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Urban School Key Indicators of Science and Mathematics Education: 2001

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National Science Foundation

Volume III :

Cohort 95, 97 & 99 School Districts

March 2002

Systemic Research, Inc.

The preparation of this report was sponsored by the National Science Foundation, Directorate for Education and Human Resources, Division of Research, Evaluation and Communication, under Grant No. REC-9874322.

The Report is also available on the World Wide Web: **www.systemic.com/usi** or **www.sistudyforum.org**

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Educational Testing Service
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With the assistance of
PIs, PDs, Data Managers and Evaluators of 22 USI Sites.

For the

National Science Foundation

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Any opinions, findings, and conclusions or recommendations expressed in this report are those of the participants and do not necessarily represent the official views, opinions, or policy of the National Science Foundation

ISBN 0-9702968-2-7

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About USI and KIDS

In 1994, NSF launched the Urban Systemic Initiative (USI) program, applying lessons learned from its initial State Systemic Initiative (SSI) program to the problems of inner-city school systems. The USI program was offered to major cities with the largest number of K-12 students living in poverty. Five cohorts of cities signed cooperative agreements with NSF for a five-year concerted system-wide effort to promote standards-based reform in mathematics, science, and technology (MST). The NSF investment was meant to be a catalyst for large-scale educational change affecting standards, curriculum, assessment, professional development, partnerships, and convergence of intellectual and fiscal resources, with constant attention to improving student achievement. NSF's focus on results has become even stronger following passage of the Government Performance and Results Act (GPRA). Over the course of its systemic initiative programs, NSF has developed a theoretical structure for systemic reform that is based on six "drivers" including four process drivers and two student outcome drivers, as well as a number of cross-cutting issues such as equity, quality, scaling up, coordination and organization.

Systemic Research, Inc. received a three year grant to explore the impact of the NSF's USI program on student achievement and the learning infrastructure in urban school districts by examining relationships among the process drivers (factor, or independent variables) and outcome drivers (system output, or dependent variables). The intent was to establish an inferential causal structure that allows reasonable attribution of impacts to program elements. Results of the study allow broader dissemination of successful systemic initiative models based on a "reverse engineering" approach.

As a vital instrument for systemic analysis, our evaluative study team developed a Key Indicator Data System (KIDS) to collect comprehensive annual core data using both quantitative (K-1: focused on demographics, student outcomes, and teacher preparations) and qualitative (K-2: focused on policies relevant to six drivers) templates. KIDS was tailored to each cohort/site due to the differences in USI timelines, curriculum structure, and student assessment systems.

With the cooperation from 22 USI sites (PIs/PDs, data managers, and local evaluators), as well as collaboration from the Educational Testing Service, The College Board, and ACT, Inc., our study team completed KIDS data collection. The qualitative data was also compiled/extracted from the individual Annual Reports and PER documents collected from all 22 sites during the project period.

The three-volume Urban School Key Indicators of Science and Mathematics Education: 2001 presents the essence of each USI's progress based on KIDS-1999, 2000, and 2001 from each site's baseline year to SY 1999-00. This report replaces Urban School Key Indicators of Science and Mathematics Education: Based on Key Indicator Data System (KIDS-1999), Volumes I-IV.

Please refer to our evaluative study web site http://www.systemic.com/usi or the Systemic Initiative (SI) study group web site http://www.sistudyforum.org for details of study progress and available electronic version of various study reports.

Urban Systemic Initiatives

USI School Districts by Cohort

Cohort 93	Cohort 94
Baltimore	Cleveland
Chicago	Columbus
Dallas	Fresno
Detroit	Los Angeles
El Paso	Memphis
Miami-Dade	New Orleans
New York	Philadelphia
Phoenix	

Cohort 95	Cohort 97
Milwaukee	Atlanta
San Antonio	Jacksonville
San Diego	
St. Louis	

Cohort 99
Houston

Urban Study Publications by Systemic Research, Inc.

Studies Funded by the National Science Foundation

What Matters in Urban School Reform, Study Monograph No. 1, by M. Ware, L. Richardson, & J. Kim, Systemic Research, Inc., March 2000.

Survey Results of Urban School Classroom Practices in Mathematics and Science: 1999 Report, Study Monograph No. 2, by R. Blank, J. Kim, and J. Smithson, Systemic Research, Inc., June 2000.

Urban School Key Indicators of Science and Mathematics Education: Based on Key Indicator Data System (KIDS-1999), Volume I, II, III, IV, and Appendix, by J. Kim, H. Lee, L. Crasco, D. Lee, A. Karantonis, and D. Leavitt, Systemic Research, Inc., September 2000.

Survey Results of Urban School Classroom Practices in Mathematics and Science: 2000 Report, Study Monograph No. 3, by J. Kim, L. Crasco, R. Blank, & J. Smithson, Systemic Research, Inc., April 2001.

Academic Excellence for All Urban Students: Their Accomplishment in Science and Mathematics, J. Kim, L. Crasco, R. Smith, G. Johnson, A. Karantonis, & D. Leavitt, Systemic Research, Inc., April 2001.

Raising Standards and Achievement in Urban Schools: Case Stories from CPMSAs in Hamilton/Chattanooga and Newport News Public Schools, a report from the Comprehensive Partnerships for Mathematics and Science Achievement (CPMSA) evaluative study, by J. Kim, P. Richmond, L. Crasco, N. Libbus, G. Johnson, and A. Karantonis, Systemic Research, Inc., January 2002.

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School District Progress Report

March 2002

Milwaukee

Urban School Key Indicators of Science and Mathematics Education: 2001

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Milwaukee USI

Program Data

USI Project Title : Milwaukee USI
Cohort: 95 (Sept. 96 - Aug. 01)
USI Web Site:

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♦ USI Schools Math & Sci. Teachers and Students

99-00	Schools	Teachers	Students
K-G5 (Elementary)	38	1,160	22,007
G6-8 (Middle)	22	405	16,822
G9-12 (High)	4	183	9,635
Total	64	1,748	48,464

Project Summary

The Milwaukee Urban Systemic Initiative (MUSI) is a 5-year cooperative agreement between the National Science Foundation and the Milwaukee Public Schools (MPS) to bring about significant improvements in the science and mathematics achievement of all children in the public schools. Built on the model of a community of learners, MUSI will foster a culture of inquiry-based learning in every classroom and school throughout the school district and the greater Milwaukee area. In this model, opportunities to learn are not limited by classroom walls. The diverse resources of the urban center are available to promote learning and achievement for all students. Students, teachers, parents, and other community stakeholders share responsibility for their own learning and for facilitating the growth of learning throughout the community. In the school community, teachers, parents, students, and others join together in advancing the knowledge, expertise, and experiences of their colleagues and work collaboratively to refine their expectations, expand their resources, develop learning experiences, and gather data on achievement to inform their instructional planning.

MUSI has three components that will promote the development of these communities of learners.

(1) The first is a cadre of Mathematics/Science Resource Teachers (MSRTs) who will serve as catalyst for change in two school communities. The MSRTs work with teachers, parents, principals, and students in developing a learning community committed to content-rich standards-based science and mathematics. This includes participating in school planning, providing access to resources and opportunities, organizing networks of teachers, facilitating staff development, mentoring teachers in classrooms, and arranging school partnerships with communities and business.

(2) The second component is the establishment of a place that will serve as a hub of mathematics and science education and as an icon of excellence and equity. The COSMIC Center (Catalyst Optimizing Science and Mathematics in the Community) will provide a wide array of activities designed to advance the mathematics and science knowledge and expertise of staff, parents, and other community stakeholders. Through a growing array of courses, workshops, seminars, and forums, the COSMIC Center will bring together members of the various learning communities around topics of interest and critical issues related to mathematics, science, and technology.

(3) The third component is the creation of a Clearinghouse of Opportunities, an electronic and print facility that will provide timely information about, and access to, the many opportunities for learning mathematics and science available to students, parents, teachers, and other staff. This network will serve also to highlight effective programs and projects and assist others to adopt or adapt their ideas for their own use.

Project Goals

- Establish Ongoing Collaborative Vision Setting
- Instituting High Standards and Performance Assessments
- Addressing Ethnic, Gender, and Socioeconomic Achievement Gaps
- Developing High Content, Inquiry-based, Technology-Rich Curriculum and Instruction
- Breaking the Boundaries Between Classroom and Community

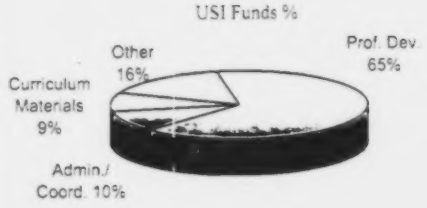
Selected School Indicators (District Average)

	95-96	99-00	Change
%Special Ed.	10.3%	11.0%	+0.7 PP
%LEP	4.7%	5.0%	+0.3 PP
%FRL	66.0%	72.0%	+6.0 PP
%Daily Ave. Atten.	87.0%	88.4%	+1.4 PP
%Average Retained	6.6%	9.1%	+2.5 PP
%Drop-Out			
%Mobility	29.0%	24.8%	-4.2 PP
Per Pupil Cost ($)		$8,752	
Num of Students Per Computer	27	9	-66.7%
% Classrooms Internet Access	10.0%	50.0%	+40.0 PP
Average Class Size	27		

(-) Data Missing PP: Percentage Points

District and USI Fund Utilization (SY 1999-00)

	District	USI
Prof. Dev.	38%	65%
Admin./Coord.	20%	10%
Curriculum Mate	11%	9%
Other	31%	16%
Total	100%	100%



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Student Demographics (SY 1999-00)

District Total: 103,777
USI Schools:

♦ Race/Ethnicity

	95-96	99-00	%	Change
Ame. Ind./Ala. Nat.	1,038	1,083	1.0%	+4.3%
Asian/P. Islander	4,263	5,237	5.0%	+22.8%
Black	58,736	63,366	61.1%	+7.9%
Hispanic	11,806	14,501	14.0%	+22.8%
White	20,708	17,797	17.1%	-14.1%
Other	1,215	1,793	1.7%	+47.6%
Total	97,766	103,777		+6.1%
URM Total	71,580	78,950	76.1%	+10.3%

URM: Underrepresented Minority students.

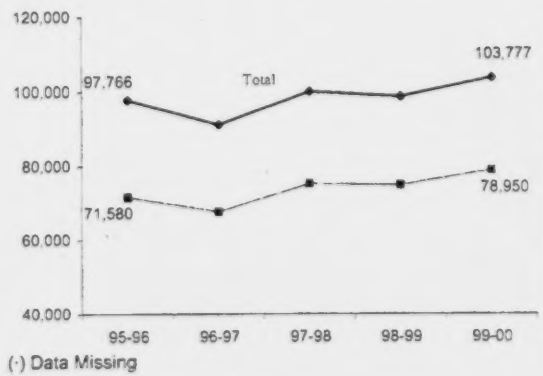
♦ Gender

Male	49,566	52,725	50.8%	+6.4%
Female	48,200	51,052	49.2%	+5.9%

♦ Grade

K-G5	50,772	55,858	53.8%	+10.0%
G6-8	21,820	21,957	21.2%	+0.6%
G9-12	25,174	25,962	25.0%	+3.1%
Ungraded	0	0	0.0%	

♦ District-Wide Student Demographic Trends



(-) Data Missing

12th Grade Graduates

	95-96	98-99	Change
Total 12th Grade	3,551	4,101	+15%
Earned a Diploma	2,520	2,935	+16%
% Earned Diploma	71%	72%	+1 PP

% Earned Diploma

College Entrance

	95-96	98-99	Change
2 Yr College	455	525	+15%
4 Yr College	990	1,103	+11%
Other Post-Secon.	45	20	-56%
Total C. E.	1,490	1,648	+11%
% C. E./Earned Dip.	59%	56%	-3 PP

% College Entrance

High School Graduation Requirements SY 99-00

- Mathematics
  - Two units of math (all 9th graders enrolled in Algebra or higher math).
- Science
  - Two units of science, which incorporate instruction in the biological and physical sciences.
- Other
  - Four units of English, three units of Social Studies, 1.5 units of Physical Education

PP: Percentage Points

Math and Science Teachers & Certification

♦ Mathematics (G6-12)

		96-97	99-00	Change
G6-8	Teachers	130	173	+33%
	Certified			
	% Cert.			
G9-12	Teachers	60	204	+240%
	Certified			
	% Cert.			
Total	Teachers	190	377	+98%
	Certified			
	% Cert.			

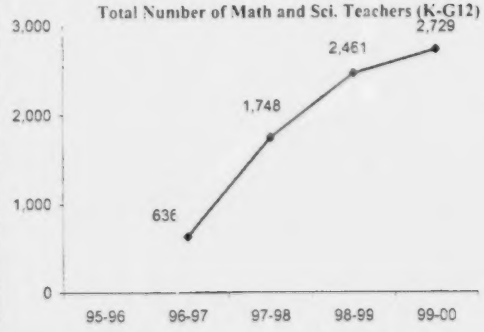
♦ Science (G6-12)

		96-97	99-00	Change
G6-8	Teachers	90	152	+69%
	Certified			
	% Cert.			
G9-12	Teachers	41	190	+363%
	Certified			
	% Cert.			
Total	Teachers	131	342	+161%
	Certified			
	% Cert.			

♦ Math and Science (K-G5)

		96-97	99-00	Change
K-G5	Teachers	315	2,010	+538%

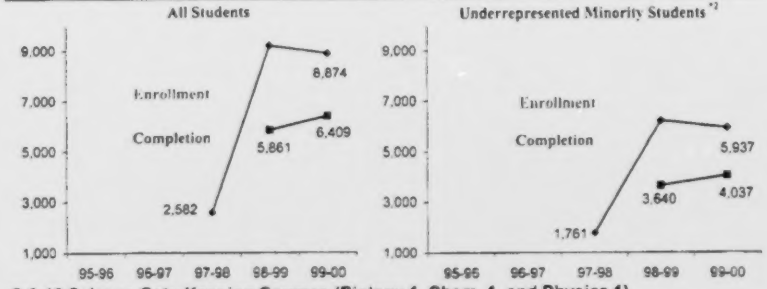
Total Number of Math and Sci. Teachers (K-G12)



Mathematics and Science Enrollment & Completion Trends/ All vs. URM

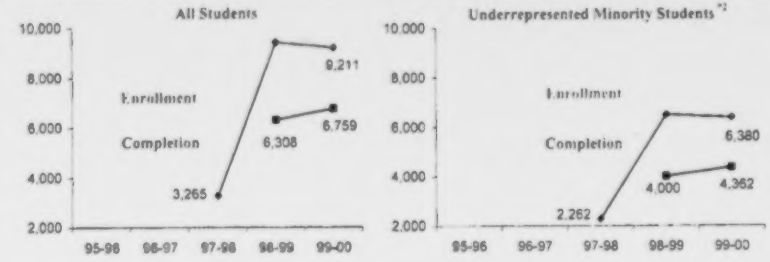
G 9-12 Mathematics Gate-Keeping Courses (Algebra II, Geo., and Calculus)

		95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		25,174	25,854	26,122	25,622	25,962
All Students	Enrollment	.	.	2,582	9,204	8,874
	Completion *1	.	.	.	5,861	6,409
	% Enroll/ G9-12	.	.	10%	36%	34%
URM *2	Enrollment	.	.	1,761	6,219	5,937
	Completion *1	.	.	.	3,640	4,037
	% Enroll/ G9-12	.	.	9%	34%	31%



G 9-12 Science Gate-Keeping Courses (Biology 1, Chem. 1, and Physics 1)

		95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		25,174	25,854	26,122	25,622	25,962
All Students	Enrollment	.	.	3,265	9,423	9,211
	Completion *1	.	.	.	6,308	6,759
	% Enroll/ G9-12	.	.	12%	37%	35%
URM *2	Enrollment	.	.	2,262	6,493	6,380
	Completion *1	.	.	.	4,000	4,362
	% Enroll/ G9-12	.	.	12%	35%	34%



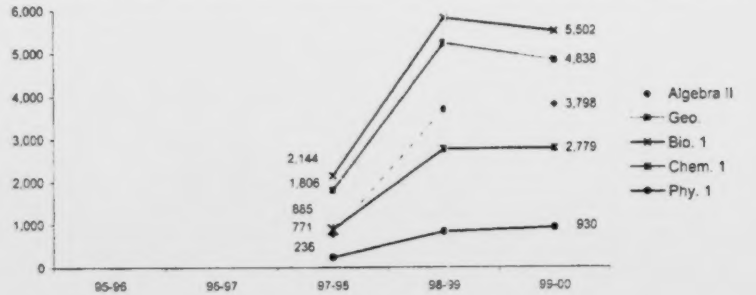
*1 Successful completion: grade 'D' or above (.) Data Missing

*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Mathematics and Science Enrollment & Completion Trends By Subject

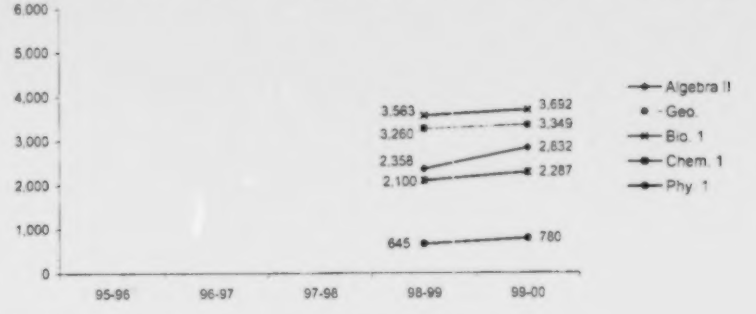
G 9-12 Course Enrollment (All Students)

	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
95-96	.	.	.	.	.	.	.	.
96-97	.	.	.	.	.	.	.	.
97-98	771	1,806	5	2,582	2,144	885	236	3,265
98-99	3,695	5,232	277	9,204	5,824	2,766	833	9,423
99-00	3,798	4,838	238	8,874	5,502	2,779	930	9,211



G 9-12 Course Completion *1 (All Students)

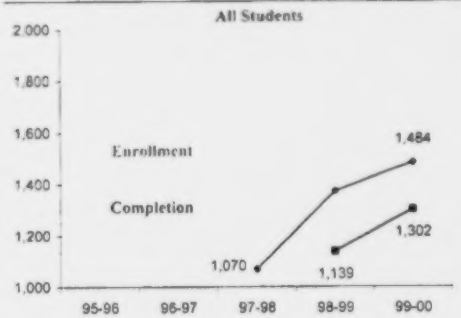
	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
95-96	.	.	.	.	.	.	.	.
96-97	.	.	.	.	.	.	.	.
97-98	.	.	.	.	.	.	.	.
98-99	2,358	3,260	243	5,861	3,563	2,100	645	6,308
99-00	2,832	3,349	228	6,409	3,692	2,287	780	6,759

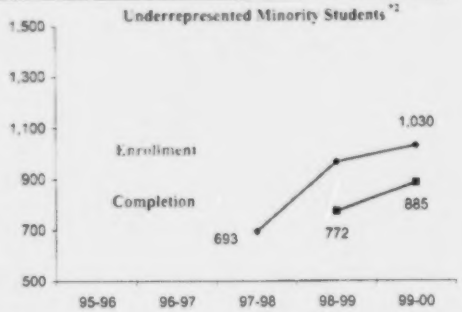


*3 Calculus not represented on graph.

Algebra I or Above in 8th Grade Enrollment & Completion Trends/ All vs. URM

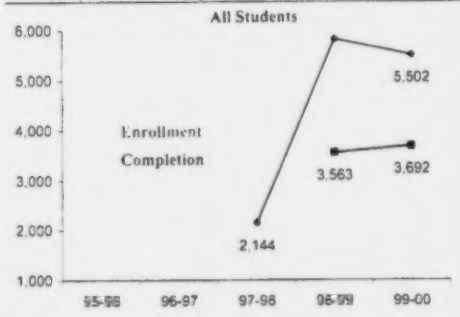
		95-96	96-97	97-98	98-99	99-00
Total G 8 Population		6,830	6,966	7,079	6,876	6,731
All Students	Enrollment	.	.	1,070	1,372	1,484
	Completion *1	.	.	.	1,139	1,302
	% Enroll/ G8	.	.	15%	20%	22%
URM *2	Enrollment	.	.	693	966	1,030
	Completion *1	.	.	.	772	885
	% Enroll/ G8	.	.	13%	18%	20%

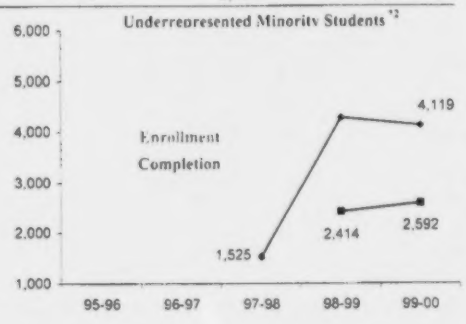




Biology Enrollment & Completion Trends/ All vs. URM

		95-96	96-97	97-98	98-99	99-00
All Students	Enrollment	.	.	2,144	5,824	5,502
	Completion *1	.	.	.	3,563	3,692
URM *2	Enrollment	.	.	1,525	4,277	4,119
	Completion *1	.	.	.	2,414	2,592





*1 Successful completion: grade 'D' or above.

(.) Data Missing

*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Professional Development Participation of Teachers Teaching Mathematics and/or Science

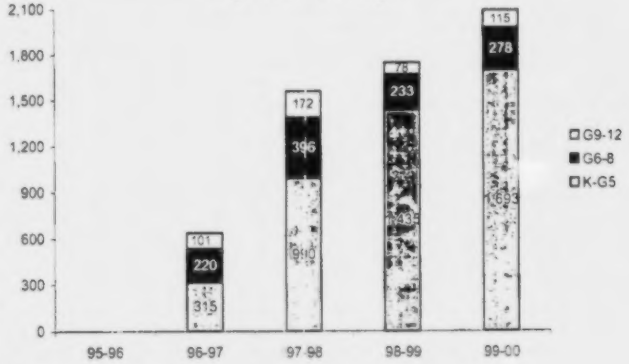
Total Number Teachers by Subject (G6-12)

	95-96	96-97	97-98	98-99	99-00
Mathematics	.	190	318	255	294
Science	.	131	270	352	342

Total Number of Teachers Participating in PD by Grade Level

Teachers	95-96	96-97	97-98	98-99	99-00
Total K-G5	.	315	1,160	1,854	2,010
# K-G5 Participated	.	315	990	1,435	1,693
% K-G5 Participated	.	100%	85%	77%	84%
Total G6-8	.	220	405	313	325
# G6-8 Participated	.	220	396	233	278
% G6-8 Participated	.	100%	98%	74%	86%
Total G9-12	.	101	183	294	311
# G9-12 Participated	.	101	172	78	115
% G9-12 Participated	.	100%	94%	27%	37%

Number of Teachers Participating in Professional Development by Grade Level Taught



Number of Teachers by Duration of Professional Development

	95-96	96-97	97-98	98-99	99-00
1-59 Hours	.	611	1,510	427	647
60-119 Hours	.	25	8	427	497
120-200 Hours	.	0	0	234	343
More than 200 Hours	.	0	40	658	599

District Assessment Test Administered

♦ Mathematics

	95-96	96-97	97-98	98-99	99-00
Math	ITBS	ITBS	ITBS	ITBS	
Scoring	PC/PL	PC/PL	PC/PL	PC/PL	
Grade	G5, 10, 12	G5,6,10,12	G5,6,8,10,12	G6-7	
Type	PL	PL	PL	PL	

♦ Science

	95-96	96-97	97-98	98-99	99-00
Science	SA	SA	SA	SA & Terra Nova	
Scoring	PL	PL	PL	PL	
Grade	G12	G5,7,12	G5,7,12	G5,7	
Type	PL	PL	PL	PL	

State Assessment Test Administered

♦ Mathematics

	95-96	96-97	97-98	98-99	99-00
Math	TerraNova	TerraNova	TerraNova	TerraNova	TerraNova
Scoring	PL	PL	PL	PL	PL
Grade	G4,8	G4,8,10	G4,8,10	G4,8,10	G4,8,10
Type	NRT/PL	NRT/PL	NRT/PL	NRT/PL	NRT/PL

♦ Science

	95-96	96-97	97-98	98-99	99-00
Science	TerraNova	TerraNova	TerraNova	TerraNova	TerraNova
Scoring	PL	PL	PL	PL	PL
Grade	G4,8	G4,8,10	G4,8,10	G4,8,10	G4,8,10
Type	NRT/PL	NRT/PL	NRT/PL	NRT/PL	NRT/PL

* ITBS: Iowa Test of Basic Skills * SA: Science Assessment

* TerraNova: Terra Nova - Wisconsin Student Assessment

PC: Percentile SN: Stanine PL: Performance Level

PF: Pass/Fail SS: Scaled Score OT: Other

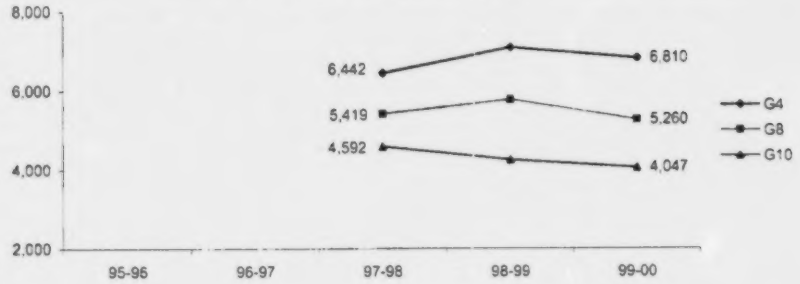
NRT: Norm-Referenced Test CRT: Criterion-Referenced Test

State Assessment Test-Taker Trends - Terra Nova

♦ Mathematics

Takers	95-96	96-97	97-98	98-99	99-00
Grade 4	.	.	6,442	7,079	6,810
Grade 8	.	.	5,419	5,780	5,260
Grade 10	.	.	4,592	4,252	4,047

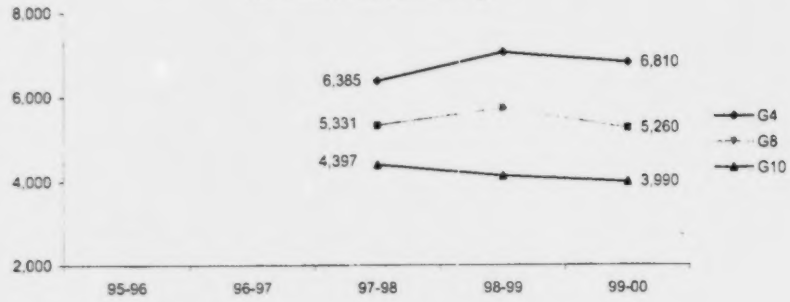
Total number of students taking test



♦ Science

Takers	95-96	96-97	97-98	98-99	99-00
Grade 4	.	.	6,385	7,056	6,810
Grade 8	.	.	5,331	5,732	5,260
Grade 10	.	.	4,397	4,136	3,990

Total number of students taking test

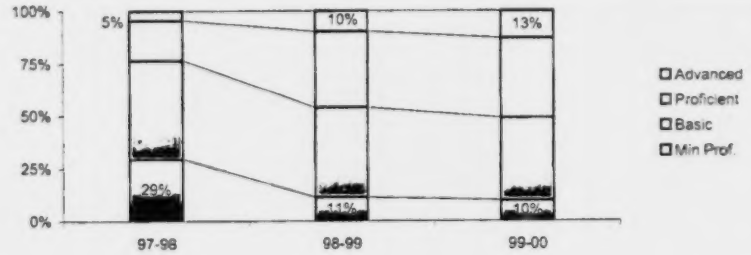


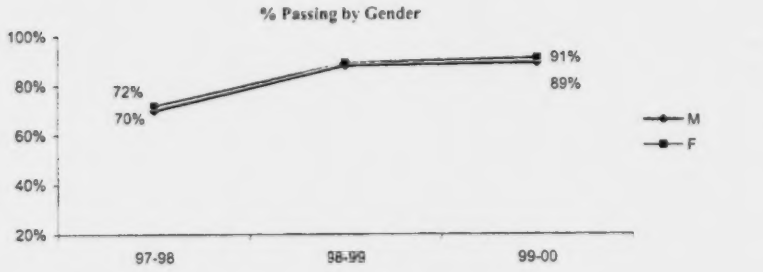
( ) Data Missing

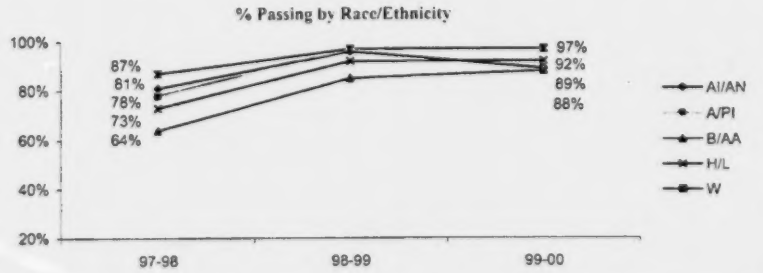
State Assessment Test Result Trends - Terra Nova Mathematics

♦ **Grade 4**

	95-96	96-97	97-98	98-99	99-00
Advanced			5%	10%	13%
Proficient			19%	36%	38%
Basic			47%	43%	39%
Min Prof.			29%	11%	10%
Total num of students			6,442	7,079	6,810



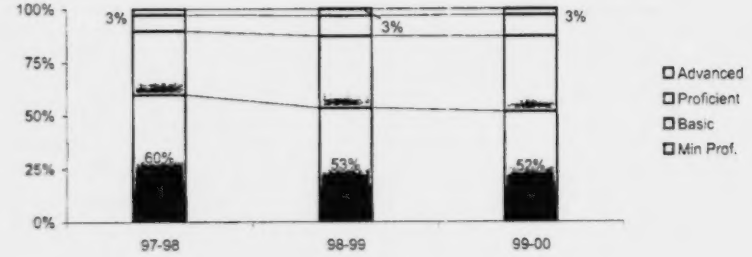


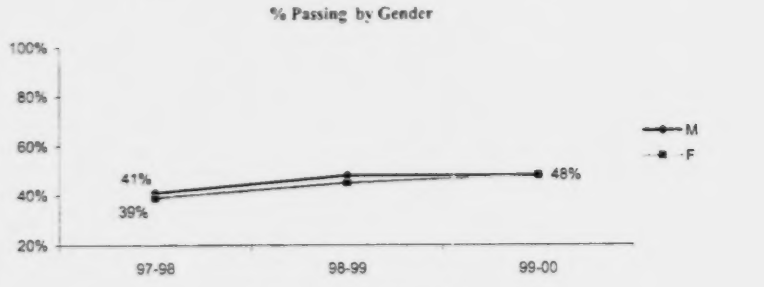


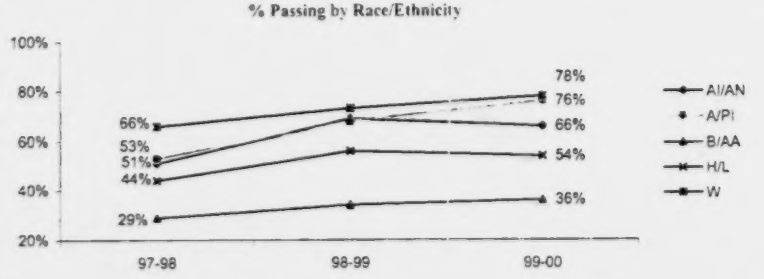
State Assessment Test Result Trends - Terra Nova Mathematics

♦ **Grade 8**

	95-96	96-97	97-98	98-99	99-00
Advanced			3%	3%	3%
Proficient			8%	9%	10%
Basic			30%	34%	35%
Min Prof.			60%	53%	52%
Total num of students			5,419	5,780	5,260





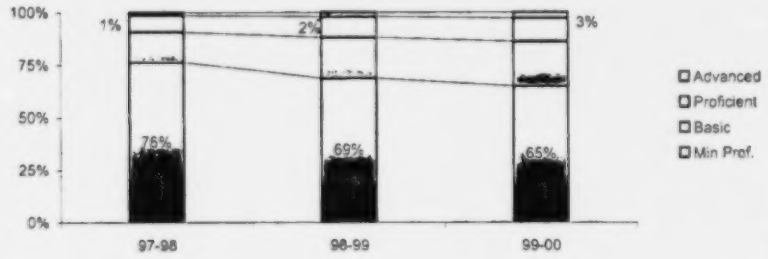


AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White
(.) Data Missing

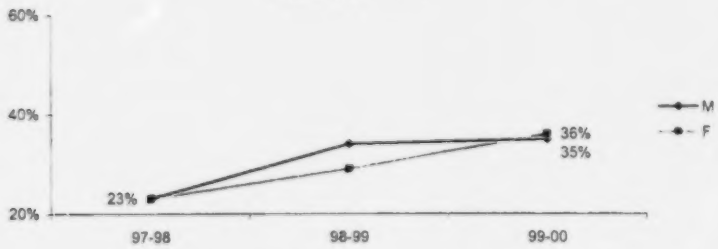
State Assessment Test Result Trends - Terra Nova Mathematics

♦ **Grade 10**

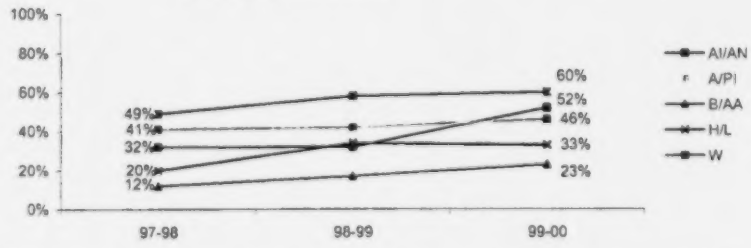
	95-96	96-97	97-98	98-99	99-00
Advanced			1%	2%	3%
Proficient			8%	10%	11%
Basic			14%	19%	21%
Min Prof.			76%	69%	65%
Total num of students			4,592	4,252	4,047



% Passing by Gender



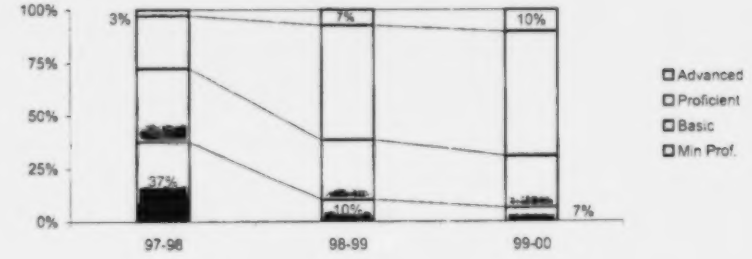
% Passing by Race/Ethnicity



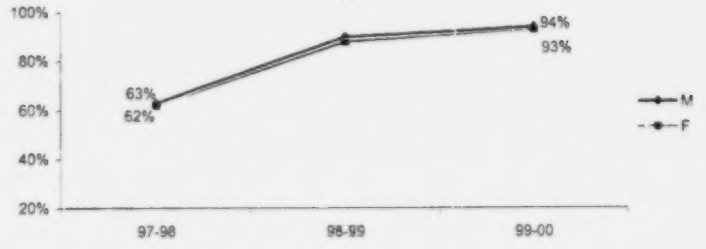
State Assessment Test Result Trends - Terra Nova Science

♦ **Grade 4**

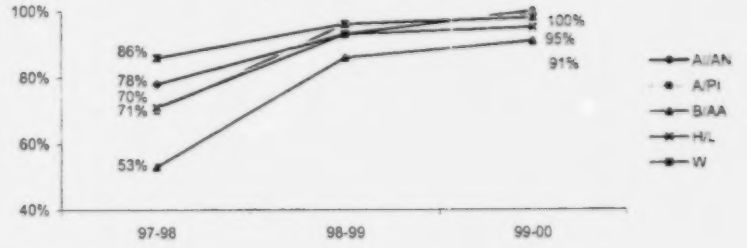
	95-96	96-97	97-98	98-99	99-00
Advanced			3%	7%	10%
Proficient			25%	54%	59%
Basic			35%	28%	24%
Min Prof.			37%	10%	7%
Total num of students			6,385	7,056	6,810



% Passing by Gender



% Passing by Race/Ethnicity

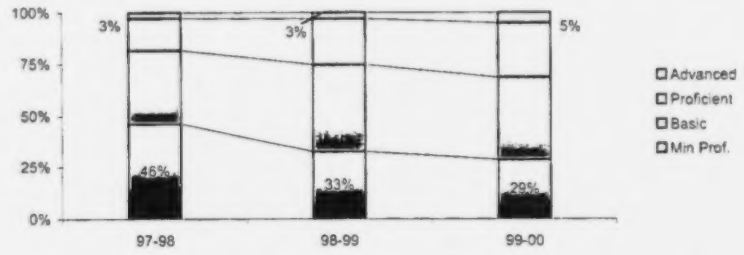


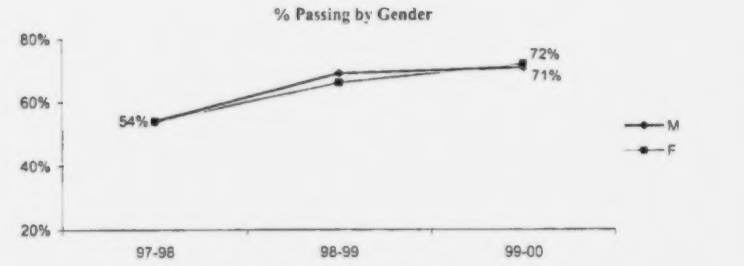
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White
(.) Data Missing

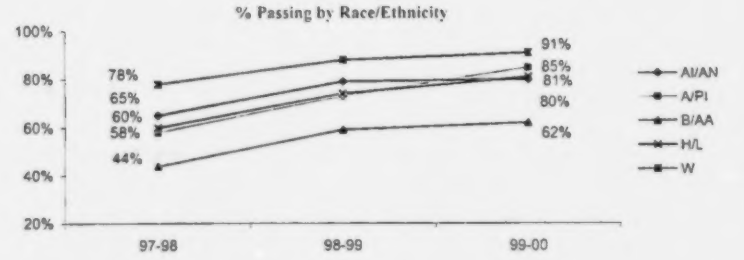
State Assessment Test Result Trends - Terra Nova Science

♦ **Grade 8**

	95-96	96-97	97-98	98-99	99-00
Advanced			3%	3%	5%
Proficient			16%	22%	26%
Basic			35%	42%	40%
Min Prof.			46%	33%	29%
Total num of students			5,331	5,732	5,260



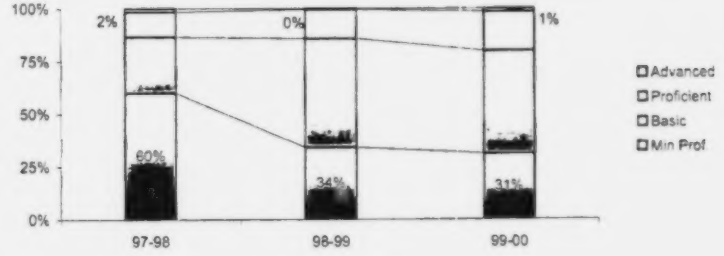


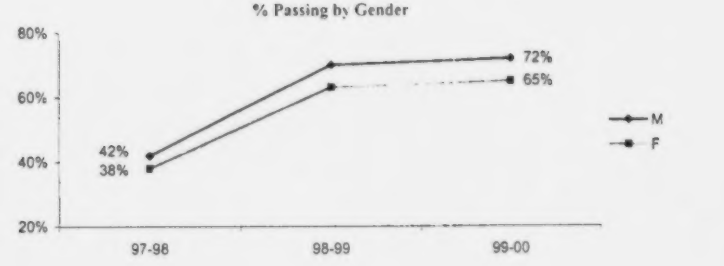


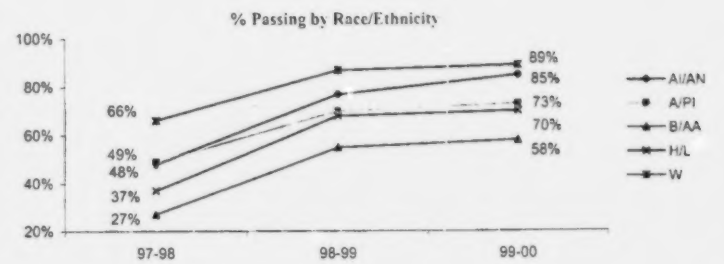
State Assessment Test Result Trends - Terra Nova Science

♦ **Grade 10**

	95-96	96-97	97-98	98-99	99-00
Advanced			2%	0%	1%
Proficient			12%	14%	19%
Basic			27%	52%	49%
Min Prof.			60%	34%	31%
Total num of students			4,397	4,136	3,990







AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

(.) Data Missing

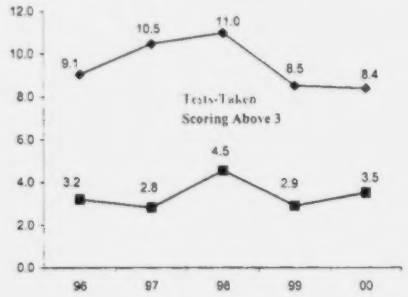
AP Mathematics Test Result Trends

♦ AP Mathematics (Calculus AB, Calculus BC, & Statistics)

♦ AP Mathematics - Total Number of Tests Taken

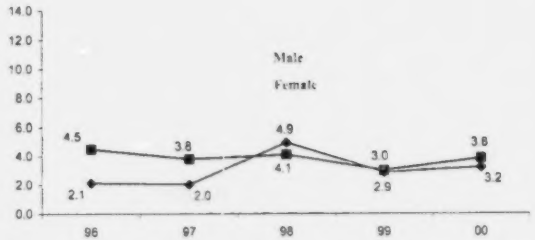
		96	97	98	99	00
Total num of 11th & 12th students		8,717	9,176	9,479	9,279	9,430
Tests Taken	Calc. AB	77	76	74	62	67
	Calc. BC	2	4	11	8	6
	Statistics	0	16	19	9	6
	Total	**79**	**96**	**104**	**79**	**79**
Num of tests-taken/1,000 stu		9.1	10.5	11.0	8.5	8.4
Scoring Above 3		28	26	43	27	33
Num of Above 3/ 1,000 students		3.2	2.8	4.5	2.9	3.5

Number of tests taken and scoring above 3 per 1,000 students



♦ AP Mathematics - Number of Students Scoring Above 3 By Gender per 1,000 Students

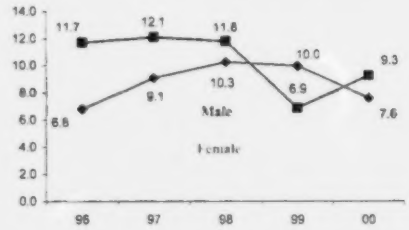
		96	97	98	99	00
Score Above 3 per 1,000	Male	4.5	3.8	4.1	3.0	3.8
	Female	2.1	2.0	4.9	2.9	3.2



♦ AP Mathematics - Number of Tests Taken By Gender Per 1,000 Students

		96	97	98	99	00
Tests Taken per 1,000	Male	11.7	12.1	11.8	6.9	9.3
	Female	6.8	9.1	10.3	10.0	7.6

Number of tests taken per 1,000 students by Gender



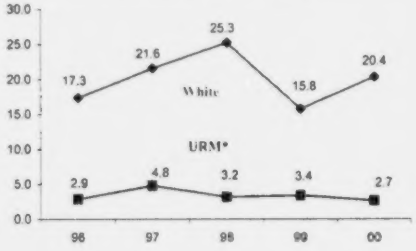
♦ AP Mathematics - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [*1]

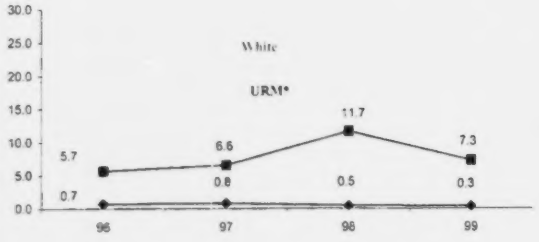
	96	97	98	99	00
AI/AN	0.0	9.2	21.3	0.0	0.0
A/PI	15.3	4.6	19.4	3.9	7.4
B/AA	0.7	0.6	0.0	0.0	0.8
H/L	1.1	1.0	0.9	1.8	2.6
W	5.7	6.6	11.7	7.3	8.8

♦ AP Mathematics - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [*1]

	96	97	98	99	00
AI/AN	0.0	9.2	21.3	21.7	0.0
A/PI	25.4	16.2	34.5	15.5	16.7
B/AA	2.9	4.3	2.8	2.6	2.7
H/L	3.2	6.8	3.5	5.3	2.6
W	17.3	21.6	25.3	15.8	20.4

Number of tests taken per 1,000 students by Race/Ethnicity





AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented

*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

AP Science Test Result Trends

• AP Science - Total Number of Tests Taken

		96	97	98	99	00
Total num of 11th & 12th students		8,717	9,176	9,479	9,279	9,430
Tests Taken	Biology	28	28	46	34	19
	Chem	16	29	17	17	26
	Enviro. Sci.	0	0	7	25	14
	Physics B	1	4	10	7	2
	Ph. C Mech.	7	17	11	10	4
	Ph. C Elec.	0	2	3	0	0
	Total	**52**	**80**	**94**	**93**	**65**
Num of tests-taken/1,000 stu.		6.0	8.7	9.9	10.0	6.9
Scoring Above 3		10	14	19	25	11
Num of Above 3/ 1,000 students		1.1	1.5	2.0	2.7	1.2

• AP Science - Number of Tests Taken By Gender Per 1,000 Students

		96	97	98	99	00
Tests Taken per 1,000	Male	6.2	10.0	8.4	7.1	6.5
	Female	5.7	7.7	11.2	12.6	7.2

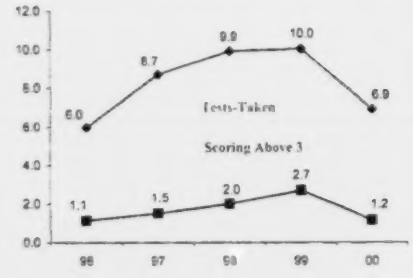
• AP Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [*1]

	96	97	98	99	00
AI/AN	0.0	9.2	31.9	10.9	10.1
A/PI	25.4	23.1	32.3	21.4	11.1
B/AA	7.5	11.8	12.6	14.4	10.8
H/L	3.2	8.7	3.5	4.4	0.9
W	10.2	18.5	18.3	24.3	18.8

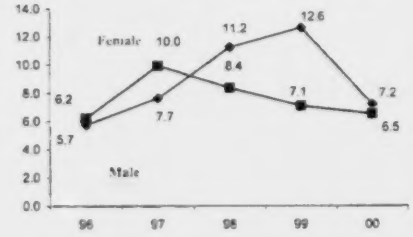
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented

• AP Science (Biology, Chemistry, Environ. Sci., Phy. B, Phy. C Mech., & Phy. C Elec.

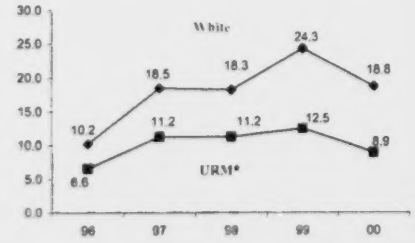
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender

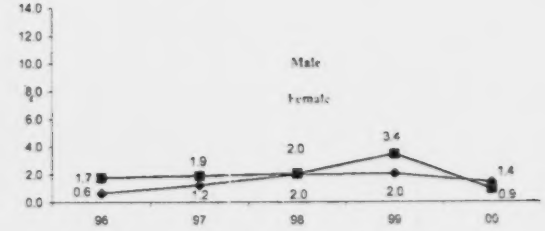


Number of tests taken per 1,000 students by Race/Ethnicity



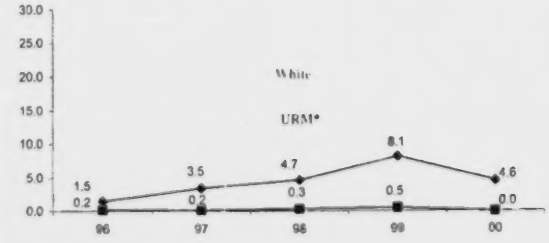
• AP Science - Number of Students Scoring Above 3 By Gender Per 1,000 Students

		96	97	98	99	00
Score Above 3 per 1,000	Male	1.7	1.9	2.0	3.4	0.9
	Female	0.6	1.2	2.0	2.0	1.4



• AP Science - Number of Students Scoring Above 3 By Race/Ethnicity Per 1,000 Students [*1]

	96	97	98	99	00
AI/AN	0.0	9.2	0.0	10.9	0.0
A/PI	5.1	9.3	10.8	1.9	0.0
B/AA	0.0	0.0	0.2	0.2	0.0
H/L	1.1	0.0	0.9	0.9	0.0
W	1.5	3.5	4.7	8.1	4.6



*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

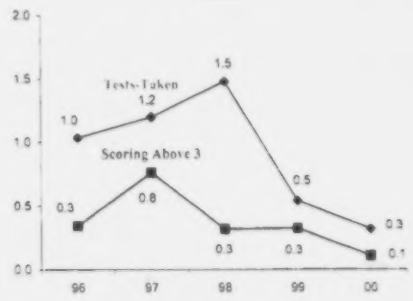
AP Computer Science Test Result Trends

♦ AP Computer Science (Computer Science A & AB)

♦ AP Computer Science - Total Number of Tests Taken

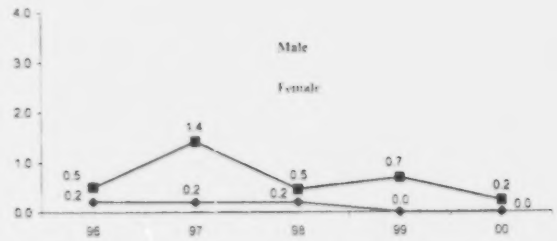
		96	97	98	99	00
	Total num of 11th & 12th students	8,717	9,176	9,479	9,279	9,439
Tests Taken	Comp. Sci A	8	4	5	5	2
	Comp. Sci. AB	1	7	9	0	1
	Total	**9**	**11**	**14**	**5**	**3**
	Num of tests-taken/1,000 stu.	1.0	1.2	1.5	0.5	0.3
	Scoring Above 3	3	7	3	3	1
	Num of Above 3/ 1,000 students	0.3	0.8	0.3	0.3	0.1

Number of tests taken and scoring above 3 per 1,000 students



♦ AP Computer Science - Number of Students Scoring Above 3 By Gender per 1,000 Students

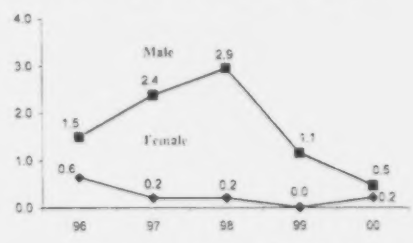
		96	97	98	99	00
Score Above 3 per 1,000	Male	0.5	1.4	0.5	0.7	0.2
	Female	0.2	0.2	0.2	0.0	0.0



♦ AP Computer Science - Number of Tests Taken By Gender Per 1,000 Students

		96	97	98	99	00
Tests Taken per 1,000	Male	1.5	2.4	2.9	1.1	0.5
	Female	0.6	0.2	0.2	0.0	0.2

Number of tests taken per 1,000 students by Gender



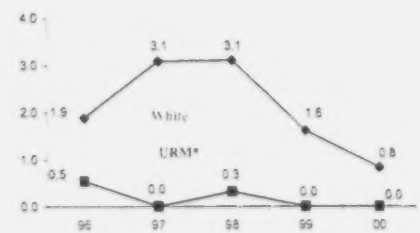
♦ AP Computer Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [*1]

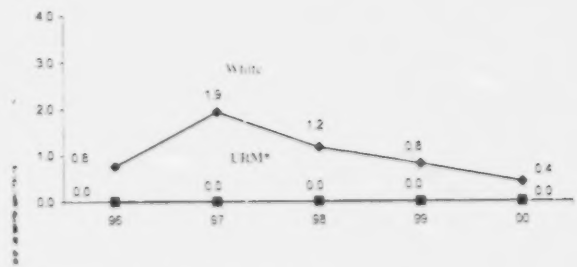
	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0
A/PI	0.0	2.3	0.0	0.0	0.0
B/AA	0.0	0.0	0.0	0.0	0.0
H/L	0.0	0.0	0.0	0.0	0.0
W	0.8	1.9	1.2	0.8	0.4

♦ AP Computer Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [*1]

	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0
A/PI	0.0	4.6	6.5	0.0	0.0
B/AA	0.7	0.0	0.2	0.0	0.0
H/L	0.0	0.0	0.9	0.0	0.0
W	1.9	3.1	3.1	1.6	0.8

Number of tests taken per 1,000 students by Race/Ethnicity





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B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented

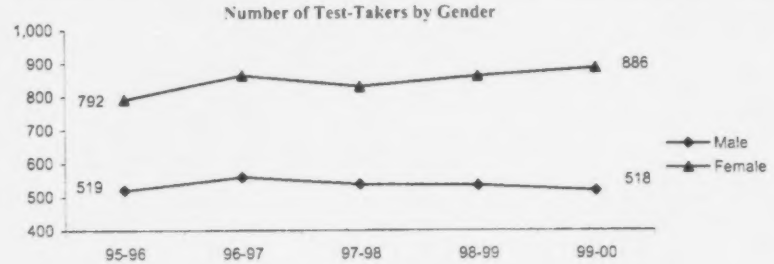
*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

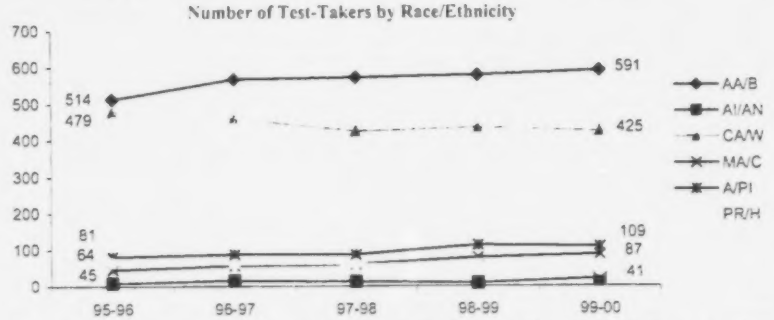
Milwaukee USI

ACT Test-Takers

♦ Number of Test-Takers

		95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		3,551	3,824	4,016	4,101	4,187
Test-Takers		1,311	1,422	1,367	1,397	1,409
Num of Test-Takers/1,000 Stu.		369	372	340	341	337
Gender	Male	519	558	537	534	518
	Female	792	864	830	861	886
Race/Ethnicity	AA/B	514	568	572	578	591
	AI/AN	8	16	13	8	21
	CA/W	479	461	425	435	425
	MA/C	45	56	60	78	87
	A/PI	81	88	87	113	109
	PR/H	64	61	61	59	41

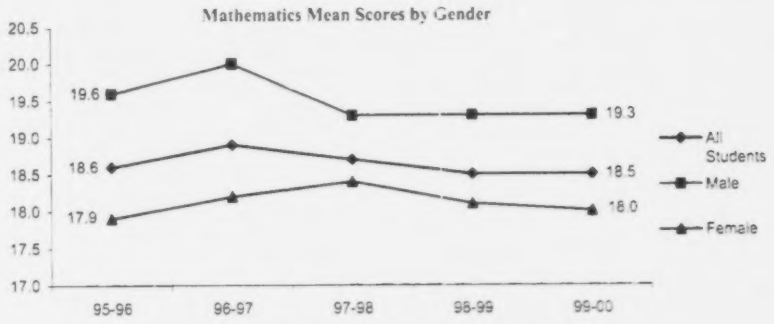


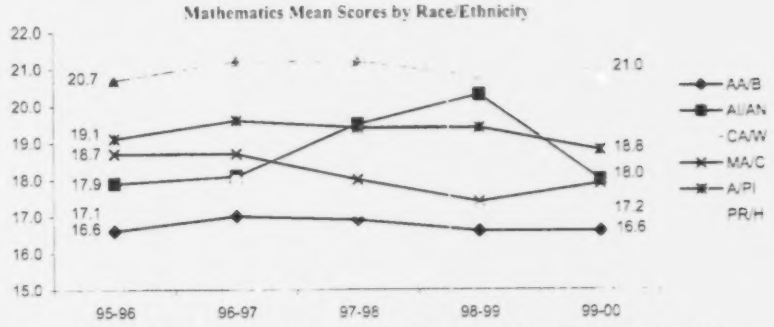


ACT Mathematics Scores

♦ Mathematics - Mean Score Trends

		95-96	96-97	97-98	98-99	99-00
All Students		18.6	18.9	18.7	18.5	18.5
Gender	Male	19.6	20.0	19.3	19.3	19.3
	Female	17.9	18.2	18.4	18.1	18.0
Race/Ethnicity	AA/B	16.6	17.0	16.9	16.6	16.6
	AI/AN	17.9	18.1	19.5	20.3	18.0
	CA/W	20.7	21.2	21.2	20.8	21.0
	MA/C	18.7	18.7	18.0	17.4	17.9
	A/PI	19.1	19.6	19.4	19.4	18.8
	PR/H	17.1	18.0	17.1	17.2	17.2





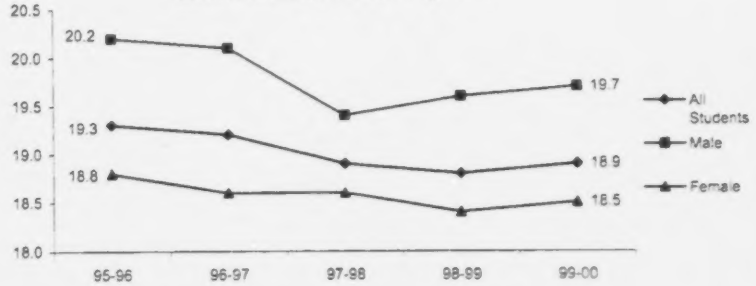
AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic

ACT Science Reasoning Scores

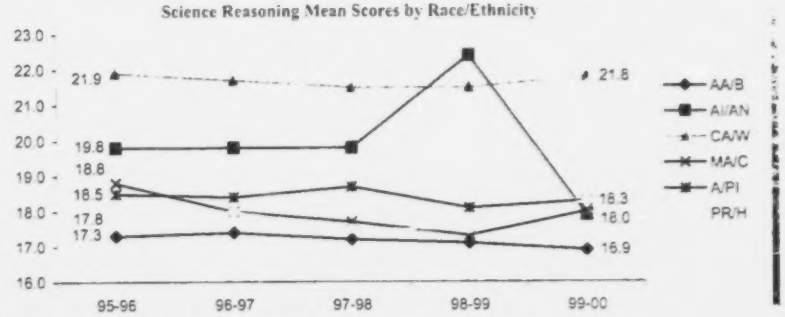
♦ **Science Reasoning - Mean Score Trends**

		95-96	96-97	97-98	98-99	99-00
All Students		19.3	19.2	18.9	18.8	18.9
Gender	Male	20.2	20.1	19.4	19.6	19.7
	Female	18.8	18.6	18.6	18.4	18.5
Race/Ethnicity	AA/B	17.3	17.4	17.2	17.1	16.9
	AI/AN	19.8	19.8	19.8	22.4	17.9
	CA/W	21.9	21.7	21.5	21.5	21.8
	MA/C	18.8	18.0	17.7	17.3	18.0
	A/PI	18.5	18.4	18.7	18.1	18.3
	PR/H	17.8	18.0	17.5	17.5	18.3

Science Reasoning Mean Scores by Gender



Science Reasoning Mean Scores by Race/Ethnicity



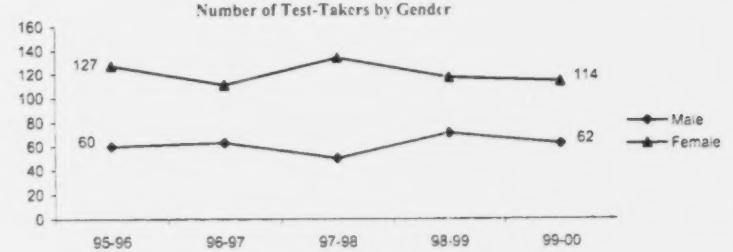
AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.

SAT Test-Takers

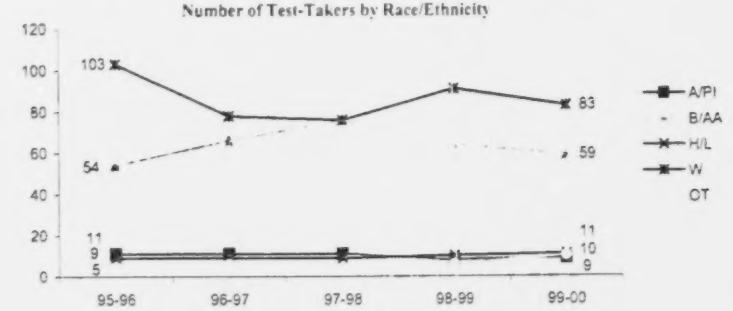
♦ **Number of Test-Takers**

		95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		3,551	3,824	4,016	4,101	4,187
Test-Takers		187	174	184	188	176
Num of Test-Takers/1,000 Stu.		53	46	46	46	42
Gender	Male	60	63	50	71	62
	Female	127	111	134	117	114
Race/Ethnicity	AI/AN [*1]	0	0	2	3	0
	A/PI	11	11	11	8	9
	B/AA	54	66	76	64	59
	H/L	9	9	9	10	11
	W	103	78	76	91	83
	OT	5	6	4	6	10

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

[*1] Number of Test-Takers less than 5 not presented on graph

SAT Mathematics Scores

♦ **Mathematics - Mean Score Trends**

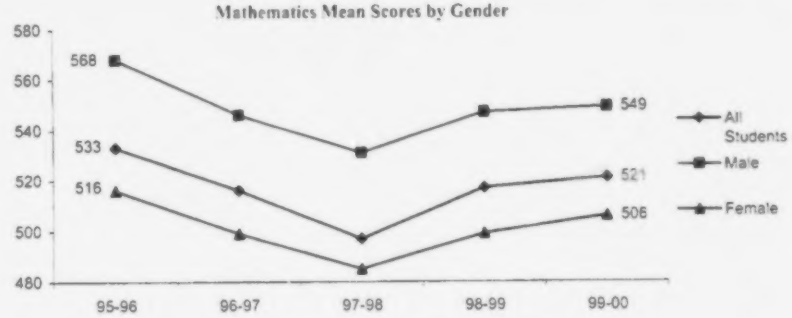
		95-96	96-97	97-98	98-99	99-00
All Students		533	516	497	517	521
Gender	Male	568	546	531	547	549
	Female	516	499	485	499	506
Race/Ethnicity	AI/AN [*1]	-	-	-	-	-
	A/PI	545	576	506	515	498
	B/AA	456	454	427	442	437
	H/L	467	448	494	497	508
	W	579	564	563	565	579
	OT [*1]	544	583	-	583	560

SAT Verbal Scores

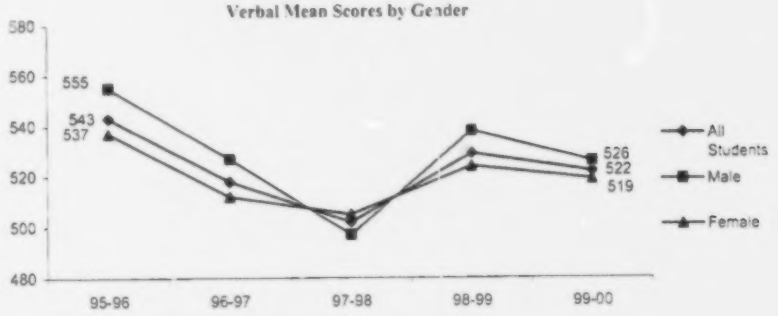
♦ **Verbal - Mean Score Trends**

		95-96	96-97	97-98	98-99	99-00
All Students		543	518	502	529	522
Gender	Male	555	527	497	538	526
	Female	537	512	505	524	519
Race/Ethnicity	AI/AN [*1]	-	-	-	-	-
	A/PI	539	514	476	468	433
	B/AA	459	448	430	452	441
	H/L	441	513	516	503	502
	W	592	577	574	583	581
	OT [*1]	610	572	-	563	576

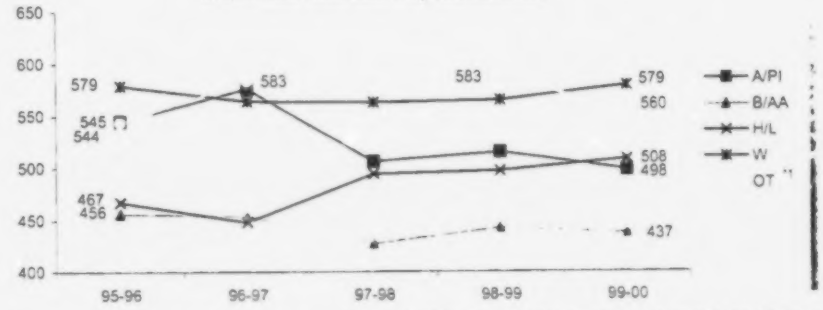
Mathematics Mean Scores by Gender



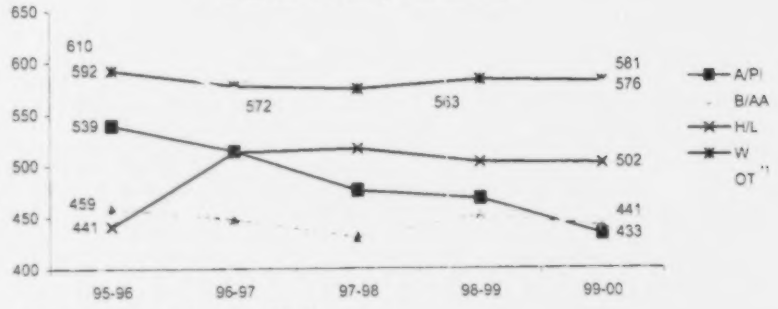
Verbal Mean Scores by Gender



Mathematics Mean Scores by Race/Ethnicity



Verbal Mean Scores by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

[*1] Mean score not presented for sample size less than 5

Milwaukee USI

Cohort/Scale-Up Approach

	96-97	97-98	98-99	99-00
Number of District Schools*:	155	155	155	160
USI Schools**:	52	71		
% Schools:	34%	46%	0%	0%

*Core Data Elements 2000-2001 and MUSI Annual Report, 11/30/99; **KIDS-2000

Primary Decision Making Body

Standards Curriculum	District
Curriculum/TextBook Adoption	District
Student Assessment	State
Professional Development	School
Resources	School
Teacher Hiring	District
Teacher Contracts	District
Certification & Re-certification	State
Graduation Requirements	District
School-Based Management?	

Policies Promoting Equal Access by All Students in High Quality Education

Student Tracking:
- Lower level science courses (e.g. Applied Science) have been eliminated

Criteria for Entry into High Level Mathematics and Science Courses:
- All G8 students take algebra
- Students must meet middle level proficiencies

Availability of High Level Courses:
- All students must take chemistry or physics
- Senior level courses: environmental science, physics, genetics & biotechnology

Special Education and Bilingual Students:
- Regular mathematics and science curriculum serves as basis for Individual Education Plans
- Most special education students are mainstreamed and are taking the middle school mathematics proficiency assessments

Policies Impacting the Enrollment of Students in Challenging Math and Science Courses

Attendance:

Guidance:

Student Support Systems:
- Pre-college programs at local universities
- Saturday Academies
- School-based Mentors
- Tutoring in school and community
- Tuition for advanced university courses
- Expanded summer school with emphasis on mathematics and science
- Safe Place Community Learning Centers

Policies Relevant to Curriculum

Framework:

Curricula:

Curricula Materials:
- Investigations in Numbers, Data and Space
- Connected Mathematics
- Explorations in Science
- Science Plus

New Courses Added as a Result of USI:

Instructional Time:
- Block Scheduling
- Some middle schools have long classes in
- Extended school year

Standards-based Curriculum and Instruction

Standards Adopted:
- National Council of Teachers of Mathematics (NCTM)
- Wisconsin Academic Standards
- National Research Council (NRC)
- American Association for the Advancement of Science (AAAS)
- Benchmarks for Science Literacy

Primary Instructional Strategies:
- Inquiry learning: students solve problems, pose and answer sophisticated questions and engage in complex, real life projects

% of Students Experiencing Standards-based Mathematics Curriculums:	E: 30% M: 95% H: 15-20%
% of Students Experiencing Standards-based Science Curriculums	E: 80% M: 50% H: 5-10%

Policies Relevant to Teacher Qualifications

Certification:

Requirement & Hiring Practices:
- Saturday recruitment in spring of year scheduled

Professional Advancement & Leadership Training:
- 3 years of USI-University of Wisconsin Madison courses on mathematics curriculum and leadership training for "teacher leaders"
- K-G8 Mathematics/Science Resource Teachers

Contract Requirements:

E: Elementary School M: Middle School H: High School

Professional Development Policies and Practices

Time Required or Supported:	
Financial Resources Provided:	
Alignment to Student Standards:	
Measurement of Impact:	• Teacher surveys • Classroom observations • Teacher interviews • Principal surveys • Data and input from resource teachers
Type and Amount Received by Average Math/Science Teacher:	• Data on standardized tests • Curriculum, content and pedagogy workshops • Teams of teachers participate together • Inquiry Learning • Extensive staff development on adopted/funded mathematics G6-8 curriculum
Evaluation Instruments:	• Evaluation surveys at end of inservice that address the inservice objectives • Mini-needs assessment and teacher interviews • Observations by support personnel in science
Professional Development Alignment to Content Standards Measures:	
Teacher's Instructional Practices Evaluation:	• Classroom observations • Student conversations • Principal interviews • Teacher interviews
Impact on Student Achievement:	• Monitoring achievement scores • Middle school passing proficiencies

Policies Relevant to Standards-based Assessments

Extent to Which Assessments are Aligned to District Standards and Curriculums:	• Performance Assessments are in alignment • Middle School Proficiencies in mathematics are aligned
Methods stakeholders are informed of goals, objectives and accomplishments of assessment program:	• A Report to the Community

USI Leadership, Governance, and Management

Superintendent:	• New Superintendent 9/97: Dr. Alan Brown • New Superintendent 5/99: Dr. Spence Korte
USI Office:	• Assistant Director hired 8/97 • Change in Project Director 1997-98 • Co-PI hired 1997-98 • Deputy Superintendent is new Co-PI (1998-99)
Community Key Personnel:	
Teacher Leaders:	• Resource Teachers

Partnerships

Other Key Initiatives:	• Title I • EMSEA • Equity 2000 • Goals 2000
Community Stakeholders:	• COSMIC Center • Milwaukee Public Museum • Wisconsin Department of Natural Resources • Milwaukee Art Museum • Girl Scouts • Work for Wisconsin • AKA Sorority • Keep Greater Milwaukee Beautiful Nature Center
Higher Education:	• University of Wisconsin Milwaukee • University of Wisconsin Whitewater • University of Wisconsin Madison • Medical College of Wisconsin • Alverno College • Marquette University • Cardinal Stritch College • Mount Mary College
Business and Industry:	• AT & T • IBM

Policy Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	• 9th Grade algebra required (1993) • All high school math courses below algebra eliminated (1994) • High school science added as graduation requirement (1995-96)
1996-97	
1996-97	• High school science requirement amended to 3 years of science for graduation
1997-98	• No changes reported
1998-99	• No changes reported

Curriculum and Instruction Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	•Curriculum not aligned with standards •No unitary curriculum
1996-97	•No changes reported
1997-98	•New standards based curriculum for math: Investigations in numbers, data and space (K-G5), Connected Mathematics (G6-8) •Proficiencies in science mandated for middle school level: Performance assessment/WSAS, Science project
1998-99	• Implementation of Connected Mathematics. • K -12 Curriculum Framework

Professional Development Policy and Program Changes to Support Teachers During USI Implementation

School Year	Policy Implemented
Before USI	•Elementary Science Inservices K- G5 district wide (1991-1992) •Science support teachers (1 full-time, 3 part-time) at local school level (1991-1992) •Focused cn varied content, pedagogy and assessment • Use of Eisenhower funds and Equity 2000 funds for summer workshops and periodic ones during the year •Title 1 workshops during school year: the workshops were representative of early 90's rich activities approach but not focused on teaching the curriculum systematically (no adopted standards based curriculum, no alignment of K-12 math curriculum in MPS •The professional development didn't focus on aligned curriculum •Eisenhower funded science curriculum and assessment committees (K-5), (6-8) and (9-12) collaboratives/networks for each group •College courses
1996-97	•MUSI resource teachers begin to do staff development in their schools and at workshops city-wide :n standards based mathematics & assessment •Curriculum & teacher training via courses of UW-Milwaukee

	•Science Performance Assessment mandated by School Board, G5 - 8 •MPS Accountability plan outlined tiered assessments •Training of resource teachers was held: given fo items directly supporting implementation of curriculum and clarifying the curriculum inservices •Workshops were held to educate teachers and administrators regarding state and national standards
1997-98	•No changes reported
1998-99	•Unitary curriculum disseminated •K-12 math and science curriculum, frameworks standards and grade level expectations approved •Workshops on projects and assessments linked to the grades' curriculum •MUSI training of MSRT's to impact classroom change in buildings - support K-5 pilots and support 6-8 implementation of math

Standards-based Assessment System Changes During USI Implementation

School Year	Policy Implemented
Before USI	•The 1995-96 Annual Report to the Community was based on student achievement data which identified schools in three ways. High achieving schools meet or exceed Board goals in all or all but one accountability measures. Improving schools show improvement
1996-97	•The MPS Accountability Plan uses a three-tiered system of quantitative and qualitative measures to reflect both system-wide goals and individual school differences
1997-98	•Middle school staff set rigorous proficiency levels in mathematics and science which all middle school students must meet before they are permitted to enter 9th grade
1998-99	•Terra Nova (G7) •TargetTeach Benchmark Tests •Middle Grades Proficiencies •Performance Assessment (math- G6-12, science G5,7,9) •Mathematics portfolio with five algebra topic and three - D projects

School District Progress Report

March 2002

San Antonio

Urban School Key Indicators of Science and Mathematics Education: 2001

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San Antonio USI

Project Information

USI Project Title : San Antonio USI
Cohort: 95 (Sept. 96 - Aug. 00)
USI Web Site:

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Alamo Stadium
110 Tuleta
San Antonio TX 78212

♦ USI Schools Math & Sci. Teachers and Students

99-00	Schools	Teachers	Students
K-G5 (Elementary)	187	7,127	117,026
G6-8 (Middle)	52	836	52,646
G9-12 (High)	30	816	66,459
Total	269	8,779	236,131

Project Summary

Systemic change in San Antonio requires dismantling old practices, including a tradition of isolation, to build a collaborative process that takes advantage of the combined resources, talents, and leadership of our many school districts. The title of the initiative is MAS y MEJOR, the Spanish acronym for "Mathematics And Science: Multiplying Excellence by Joining Our Resources." In Spanish, MAS y MEJOR mean "More and Better." MAS y MEJOR is built on the strength of having more districts involved in designing a better plan for improvement in mathematics and science education in which (1) more students learn and achieve in better mathematics and science courses of consistently high-quality in all nine school districts. (2) more teachers learn and use better teaching strategies. (3) more content and better teaching approaches are modeled by university and college professors and instructors in mathematics and science programs for teachers. (4) more cooperation takes place across school policies and practices are established that impact every student in every school. (5) more schools address mathematics and science learning and teaching in their Campus Improvement Plans, and better programs are available to support students who are having difficulty in learning mathematics and science. (6) more calculators and computers are used with better software and integration into the regular instructional program.

Project Goals

- Implement up-to-date, rigorous science and mathematics content and assessment and strong student support programs.
- Provide high-quality offerings and a structure for ongoing professional development for all teachers of mathematics and science.
- Design and carry out Campus Improvement Plans that include meaningful, long-term mathematics and science objectives and strategies.
- Align policies, resources, and administrative practices that will establish and maintain high expectations and equal opportunities in mathematics and science for all students.

Selected School Indicators (District Average)

	95-96	99-00	Change
%Special Ed.	14.8%	14.8%	+0.0 PP
%LEP	8.4%	10.2%	+1.8 PP
%FRL	65.0%		
%Daily Ave. Atten.	94.9%		
%Average Retained			
%Drop-Out	1.8%		
%Mobility			
Per Pupil Cost ($)	5,743	6,781	+18%
Num of Students Per Computer			
% Classrooms Internet Access			
Average Class Size	16	15	-6%

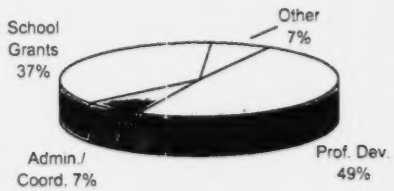
(.) Missing Data

PP: Percentage Points

District and USI Fund Utilization (SY 1999-00)

	District	USI
Prof. Dev.	22%	49%
Admin./Coord.	6%	7%
School Grants	9%	37%
Other	63%	7%
Total	100%	100%

USI Funds %



Student Demographics (SY 1999-00)

District Total:	236,131	
USI Schools:	236,131	100%

♦ Race/Ethnicity

	95-96	99-00	%	% Change
Ame. Ind./Ala. Nat.	219	472	0.2%	+53.6%
Asian/P. Islander	1,986	3,306	1.4%	+39.9%
Black	15,452	20,307	8.6%	+23.9%
Hispanic	132,451	145,929	61.8%	+9.2%
White	70,640	66,117	28.0%	-6.8%
Other	•	•	•	•
Total	220,748	236,131		+6.5%
URM Total	148,122	166,708	70.6%	+11.1%

URM: Underrepresented Minority students.

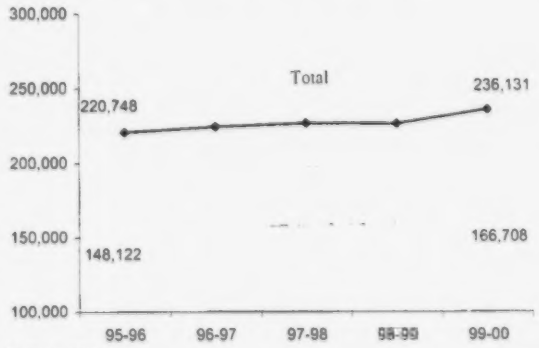
♦ Gender

Male	107,063	121,318	51.4%	+13.3%
Female	113,685	114,813	48.6%	+1.0%

♦ Grade

K-G5	108,351	117,026	49.6%	+8.0%
G6-8	52,867	52,646	22.3%	-0.4%
G9-12	59,530	66,459	28.1%	+11.6%
Ungraded	0	0	0.0%	

♦ District-Wide Student Demographic Trends



(·) Data Missing

12th Grade Graduates

	95-96	99-00	Change
Total 12th Grade	11,063	12,900	+17%
Earned a Diploma	10,423	12,584	+21%
% Earned Diploma	94%	98%	+4 PP

% Earned Diploma

College Entrance

	95-96	99-00	Change
2 Yr College			
4 Yr College			
Other Post-Secon.			
Total C. E.			
% C. E./Earned Dip.			

% College Entrance

High School Graduation Requirements SY 99-00

- Mathematics
  - 3 courses in mathematics, starting with Algebra I
- Science
  - 2 courses in science, starting with Biology I

PP: Percentage Points

Math and Science Teachers & Certification

♦ Mathematics (G6-12)

		95-96	99-00	Change
G6-8	Teachers	409	502	+23%
	Certified	•	•	•
	% Cert.	•	•	•
G9-12	Teachers	451	609	+35%
	Certified	•	•	•
	% Cert.	•	•	•
Total	Teachers	860	1,111	+29%
	Certified	•	•	•
	% Cert.	•	•	•

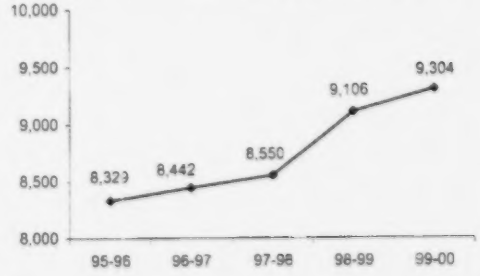
♦ Science (G6-12)

		95-96	99-00	Change
G6-8	Teachers	383	447	+17%
	Certified			
	% Cert.			
G9-12	Teachers	323	486	+50%
	Certified			
	% Cert.			
Total	Teachers	706	933	+32%
	Certified			
	% Cert.			

♦ Math and Science (K-G5)

		95-96	99-00	Change
K-G5	Teachers	6,763	7,260	+7%

Total Number of Math and Sci. Teachers (K-G12) *1

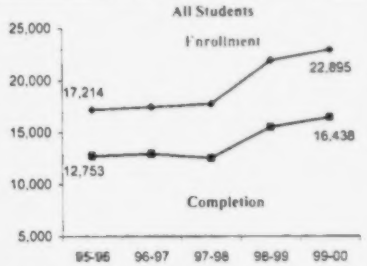


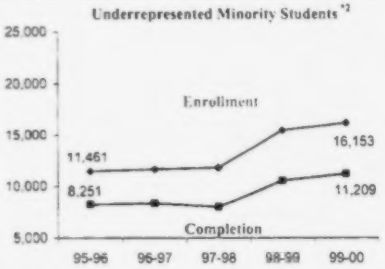
*1 Total Number of District Teachers Not Available for other S

Mathematics and Science Enrollment &Completion Trends/ All vs. URM

G 9-12 Mathematics Gate-Keeping Courses (Algebra II, Geo., and Calculus)

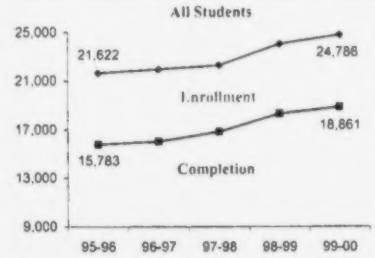
		95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		59,530	61,400	62,952	63,645	66,459
All Students	Enrollment	17,214	17,476	17,743	21,931	22,895
	Completion *1	12,753	12,946	12,567	15,514	16,438
	% Enroll/ G9-12	29%	28%	28%	34%	34%
URM *2	Enrollment	11,461	11,636	11,813	15,427	16,153
	Completion *1	8,251	8,377	7,999	10,524	11,209
	% Enroll/ G9-12	29%	28%	28%	36%	34%

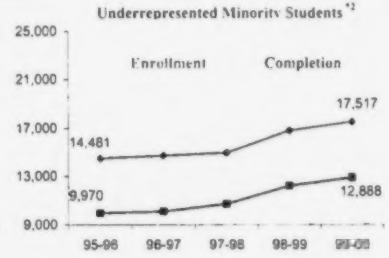




G 9-12 Science Gate-Keeping Courses (Biology 1, Chem. 1, and Physics 1)

		95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		59,530	61,400	62,952	63,645	66,459
All Students	Enrollment	21,622	21,950	22,285	24,044	24,786
	Completion *1	15,783	16,022	16,842	18,314	18,861
	% Enroll/ G9-12	36%	36%	35%	38%	37%
URM *2	Enrollment	14,481	14,700	14,924	16,772	17,517
	Completion *1	9,970	10,122	10,738	12,196	12,888
	% Enroll/ G9-12	36%	36%	35%	39%	37%





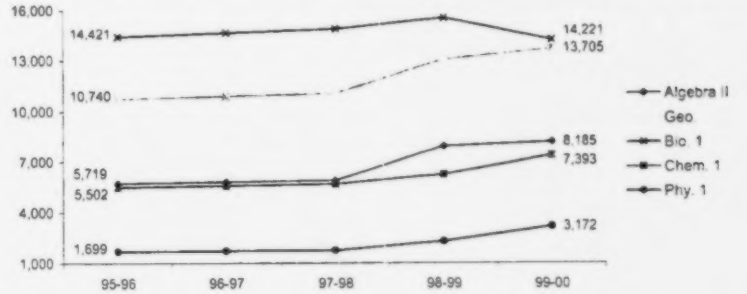
*1 Successful completion: grade 'D' or above.

*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Mathematics and Science Enrollment & Completion Trends By Subject

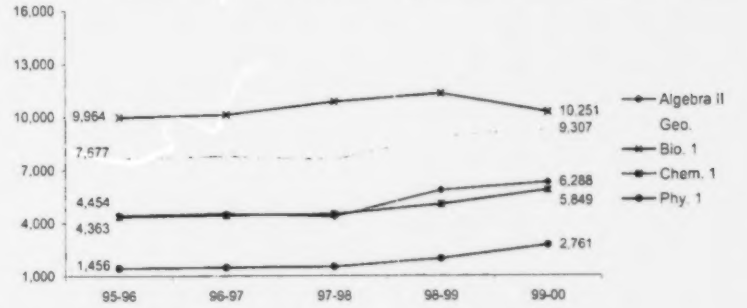
G 9-12 Course Enrollment (All Students)

	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
95-96	5,719	10,740	755	17,214	14,421	5,502	1,699	21,622
96-97	5,806	10,904	766	17,476	14,640	5,586	1,724	21,950
97-98	5,894	11,070	779	17,743	14,863	5,671	1,751	22,285
98-99	7,924	13,061	946	21,931	15,519	6,235	2,290	24,044
99-00	8,185	13,705	1,005	22,895	14,221	7,393	3,172	24,786



G 9-12 Course Completion *1 (All Students)

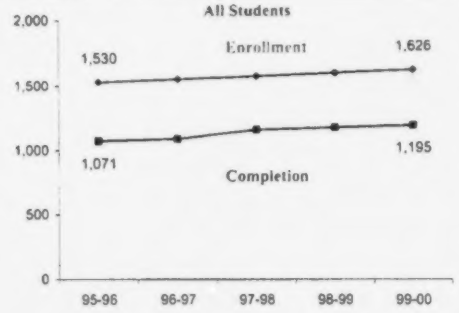
	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
95-96	4,454	7,677	622	12,753	9,964	4,363	1,456	15,783
96-97	4,522	7,793	631	12,946	10,115	4,429	1,478	16,022
97-98	4,342	7,587	638	12,567	10,832	4,495	1,515	16,842
98-99	5,838	8,902	774	15,514	11,296	5,038	1,980	18,314
99-00	6,288	9,307	843	16,438	10,251	5,849	2,761	18,861

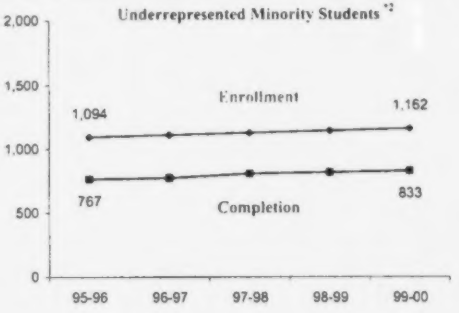


*3 Calculus not represented on graph.

Algebra I or Above in 8th Grade Enrollment & Completion Trends/ All vs. URM

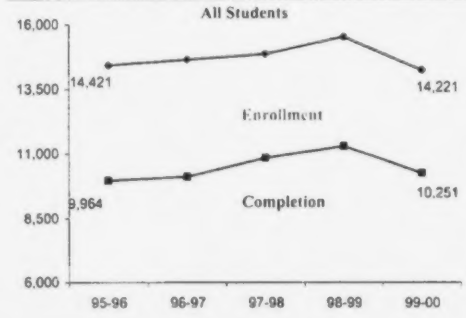
		95-96	96-97	97-98	98-99	99-00
Total G 8 Population		17,040	17,433	18,043	18,255	17,438
All Students	Enrollment	1,530	1,554	1,578	1,602	1,626
	Completion *1	1,071	1,088	1,159	1,177	1,195
	% Enroll/ G8	9%	9%	9%	9%	9%
URM *2	Enrollment	1,094	1,111	1,128	1,145	1,162
	Completion *1	767	778	810	821	833
	% Enroll/ G8	10%	9%	9%	9%	9%

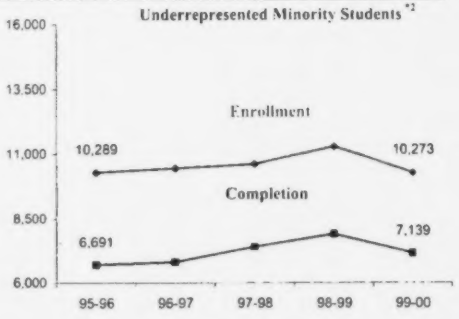




Biology Enrollment & Completion Trends/ All vs. URM

		95-96	96-97	97-98	98-99	99-00
All Students	Enrollment	14,421	14,640	14,863	15,519	14,221
	Completion *1	9,964	10,115	10,832	11,296	10,251
URM *2	Enrollment	10,289	10,445	10,604	11,278	10,273
	Completion *1	6,691	6,793	7,392	7,897	7,139





*1 Successful completion: grade 'D' or above.

*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Professional Development Participation of Teachers Teaching Mathematics and/or Science

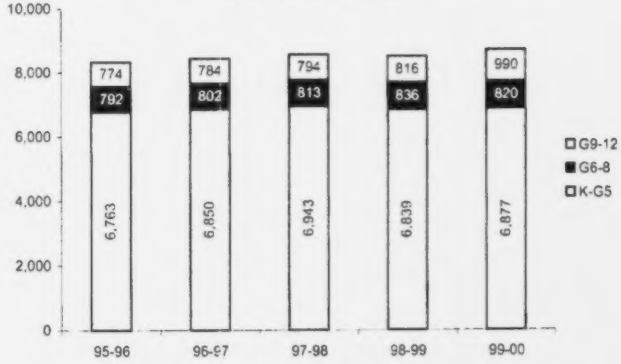
Total Number Teachers by Subject (G6-12)

	95-96	96-97	97-98	98-99	99-00
Mathematics	860	871	883	1,024	1,111
Science	706	715	724	841	933

Total Number of Teachers Participating in PD by Grade Level

Teachers	95-96	96-97	97-98	98-99	99-00
Total K-G5	6,763	6,850	6,943	7,241	7,260
# K-G5 Participated	6,763	6,850	6,943	6,839	6,877
% K-G5 Participated	100%	100%	100%	94%	95%
Total G6-8	792	802	813	964	949
# G6-8 Participated	792	802	813	836	820
% G6-8 Participated	100%	100%	100%	87%	86%
Total G9-12	774	784	794	901	1,095
# G9-12 Participated	774	784	794	816	990
% G9-12 Participated	100%	100%	100%	91%	90%

Number of Teachers Participating in Professional Development by Grade Level Taught



Number of Teachers by Duration of Professional Development

	95-96	96-97	97-98	98-99	99-00
1-59 Hours	8,329	7,966	8,120	7,159	8,016
60-119 Hours	0	470	430	661	403
120-200 Hours	0	0	0	602	185
More than 200 Hours	0	0	0	69	83

District Assessment Test Administered

♦ Mathematics

	95-96	96-97	97-98	98-99	99-00
Test Name			SAT9	SAT9	
Scoring			PC, SN, PL, PF	PC, SN, PL, PF	
Grade			3,5,7	3,5,7	
Type			NRT	NRT	

♦ Science

	95-96	96-97	97-98	98-99	99-00
Test Name			SAT9	SAT9	PASS
Scoring			PC, SN, PL, PF	PC, SN, PL, PF	OT
Grade			3,5,7	3,5,7	5
Type			NRT	NRT	CRT

State Assessment Test Administered

♦ Mathematics

	95-96	96-97	97-98	98-99	99-00
Test Name	TAAS	TAAS	TAAS	TAAS	TAAS
Scoring	PL	PL	PL	PL	PL
Grade	3-8,10	3-8,10	3-8,10	3-8,10	3-8,10
Type	CRT	CRT	CRT	CRT	CRT

♦ Science

	95-96	96-97	97-98	98-99	99-00
Test Name	TAAS	TAAS	TAAS	TAAS	TAAS
Scoring	PL	PL	PL	PL	PL
Grade	G8	G8	G8	G8	G8
Type	CRT	CRT	CRT	CRT	CRT

* TAAS: Texas Assessment of Academic Skills

SAT9: Stanford Achievement Test

PC: Percentile SN: Stanine PL: Performance Level

PF: Pass/Fail SS: Scaled Score OT: Other

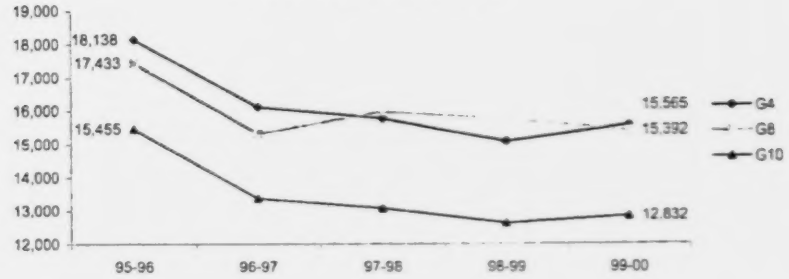
NRT: Norm-Referenced Test CRT: Criterion-Referenced Test

State Assessment Test-Taker Trends TAAS

♦ Mathematics

# of Test Takers	95-96	96-97	97-98	98-99	99-00
Grade 4	18,138	16,117	15,751	15,077	15,565
Grade 8	17,433	15,311	15,961	15,739	15,392
Grade 10	15,455	13,366	13,068	12,621	12,832

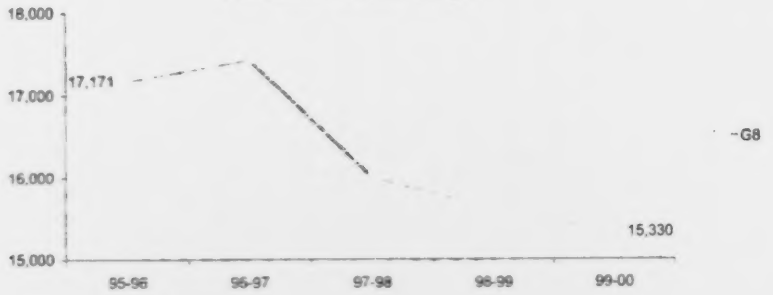
Total number of students taking test



♦ Science

# of Test Takers	95-96	96-97	97-98	98-99	99-00
Grade 4					
Grade 8	17,171	17,433	16,007	15,621	15,330
Grade 10					

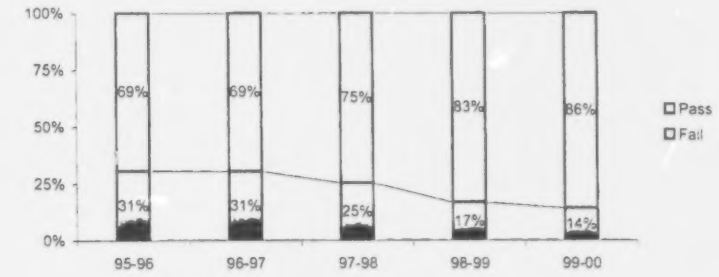
Total number of students taking test

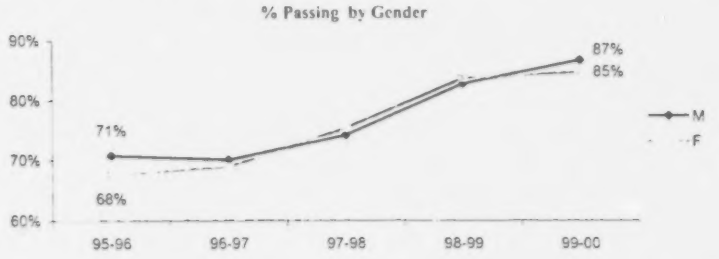


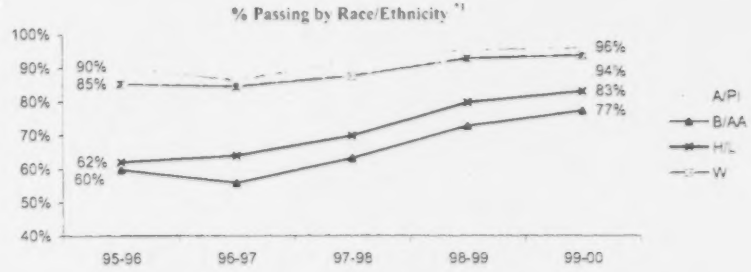
State Assessment Test Result Trends TAAS - Mathematics

♦ Grade 4

	95-96	96-97	97-98	98-99	99-00
Pass	69%	69%	75%	83%	86%
Fail	31%	31%	25%	17%	14%
Total num of students	18,138	16,117	15,751	15,077	15,565



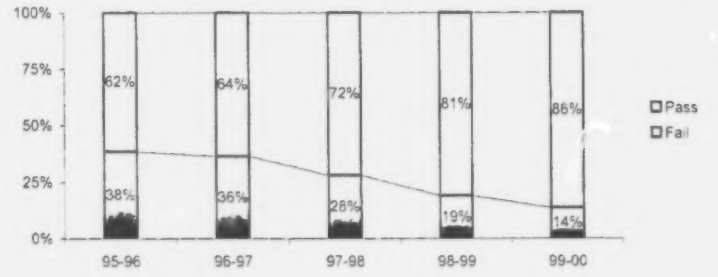


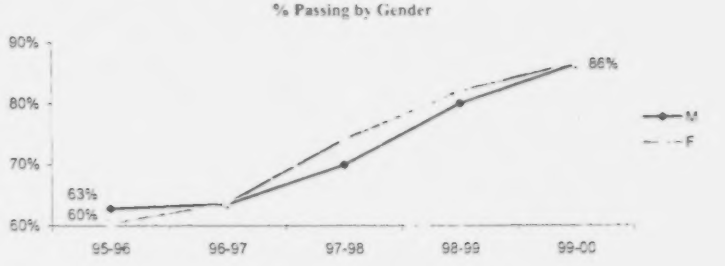


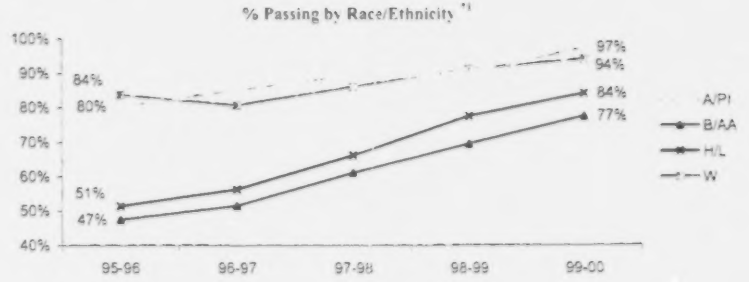
State Assessment Test Result Trends TAAS - Mathematics

♦ Grade 8

	95-96	96-97	97-98	98-99	99-00
Pass	62%	64%	72%	81%	86%
Fail	38%	36%	28%	19%	14%
Total num of students	17,433	15,311	15,961	15,739	15,392







AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing is defined as Pass

*1 % Passing not presented for sample size less than 5

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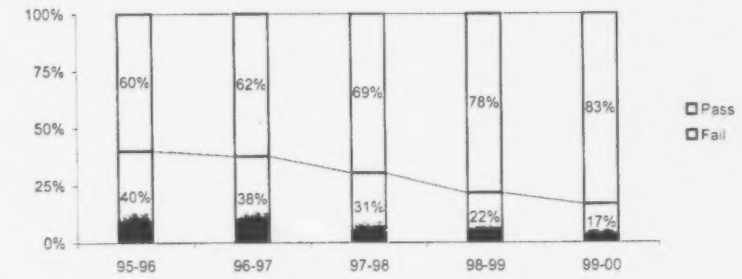
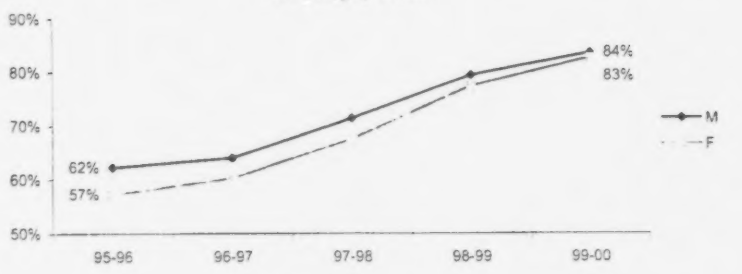
State Assessment Test Result Trends TAAS - Mathematics

♦ **Grade 10**

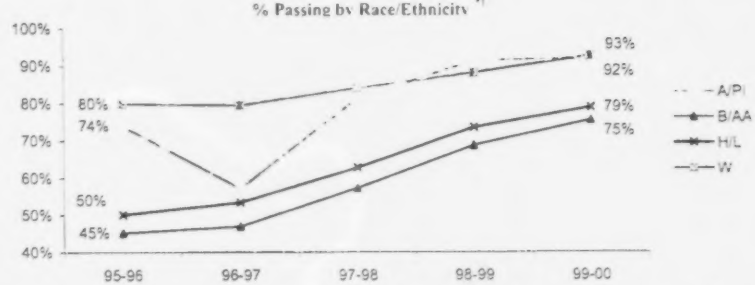
	95-96	96-97	97-98	98-99	99-00
Pass	60%	62%	69%	78%	83%
Fail	40%	38%	31%	22%	17%
Total num of students	15,455	13,366	13,068	12,621	12,832



% Passing by Gender



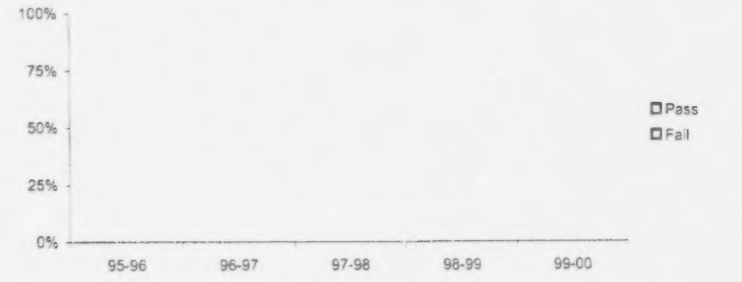
% Passing by Race/Ethnicity [*1]



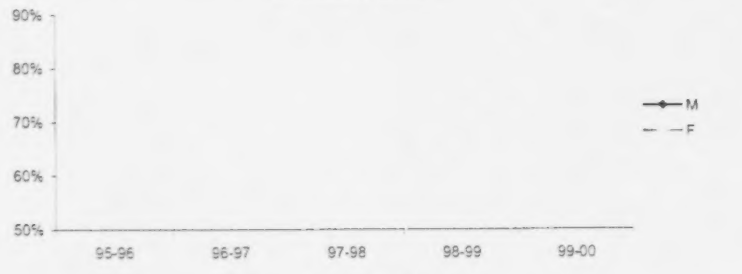
State Assessment Test Result Trends TAAS - Science

♦ **Grade 4**

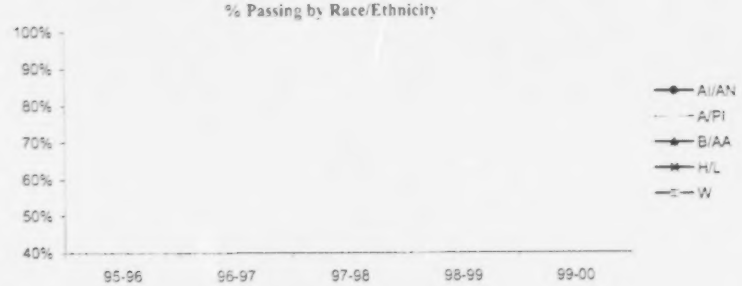
	95-96	96-97	97-98	98-99	99-00
Pass					
Fail					
Total num of students					



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

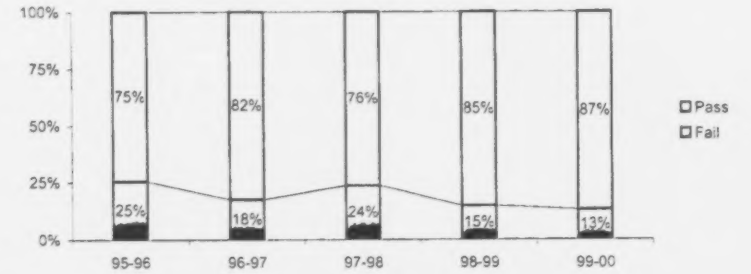
% Passing is defined as Pass

[*1] % Passing not presented for sample size less than 5

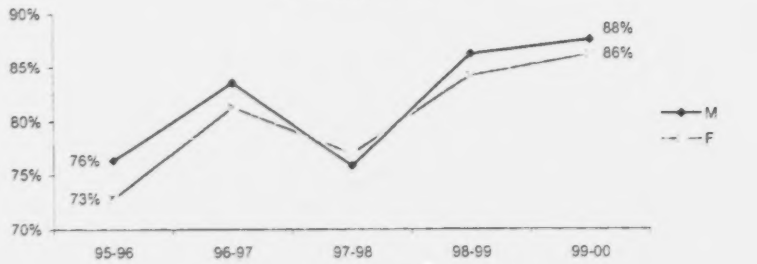
State Assessment Test Result Trends TAAS - Science

♦ Grade 8

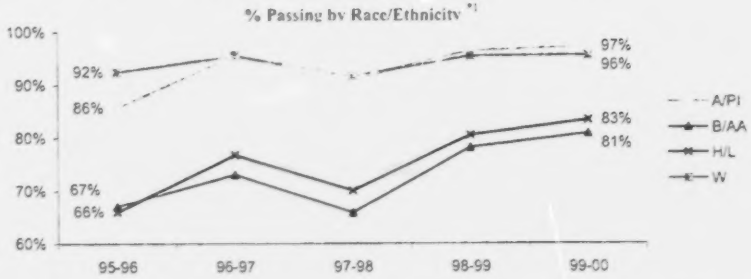
	95-96	96-97	97-98	98-99	99-00
Pass	75%	82%	76%	85%	87%
Fail	25%	18%	24%	15%	13%
Total num of students	17,171	17,433	16,007	15,621	15,330



% Passing by Gender



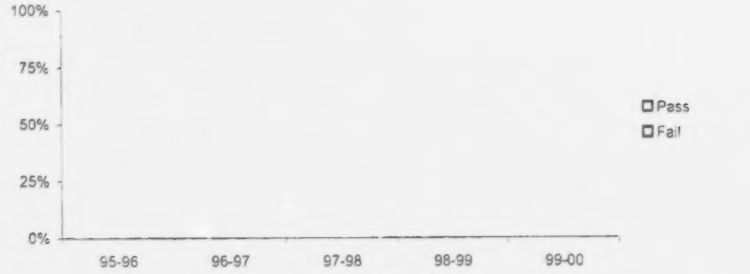
% Passing by Race/Ethnicity *1



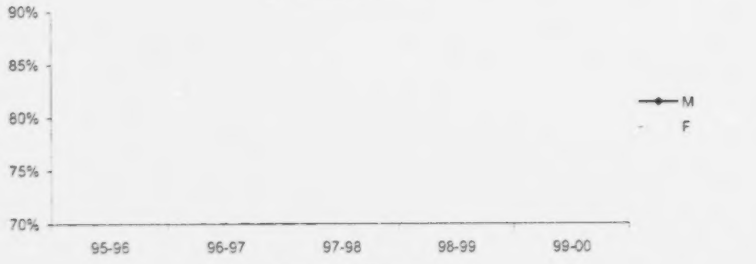
State Assessment Test Result Trends TAAS - Science

♦ Grade 10

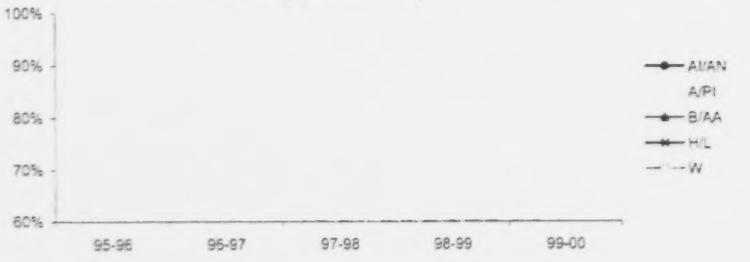
	95-96	96-97	97-98	98-99	99-00
Pass					
Fail					
Total num of students					



% Passing by Gender



% Passing by Race/Ethnicity



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% Passing is defined as Pass

*1 % Passing not presented for sample size less than 5

AP Mathematics Test Result Trends

♦ AP Mathematics - Total Number of Tests Taken

		96	97	98	99	00
Total Num of 11th & 12th students		24,039	25,479	26,610	26,910	27,992
Tests Taken	Calc. AB	227	210	200	243	372
	Calc. BC	82	65	82	120	103
	Statistics	0	18	38	43	101
	Total	**309**	**293**	**320**	**406**	**576**
Num of tests-taken/1,000 stu.		12.9	11.5	12.0	15.1	20.6
Scoring Above 3		167	153	207	220	221
Num of Above 3/ 1,000 students		6.9	6.0	7.8	8.2	7.9

♦ AP Mathematics - Number of Tests Taken By Gender

Per 1,000 Students

		96	97	98	99	00
Tests Taken per 1,000	Male	15.4	11.9	14.3	16.2	21.7
	Female	10.5	11.1	9.9	14.0	19.5

♦ AP Mathematics - Number of Tests Taken By Race/Ethnicity

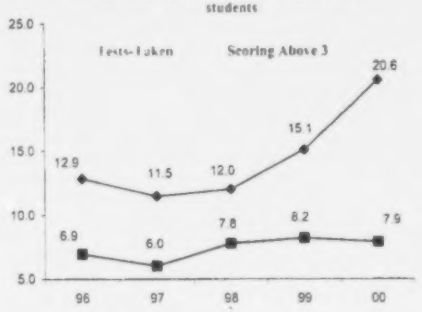
Per 1,000 Students [*1]

	96	97	98	99	00
AI/AN	0.0	34.5	38.5	54.1	35.7
A/PI	110.6	57.1	49.0	72.4	81.6
B/AA	3.6	6.4	4.7	8.9	22.9
H/L	7.3	6.4	6.3	7.8	12.0
W	19.0	14.1	17.9	21.6	33.2

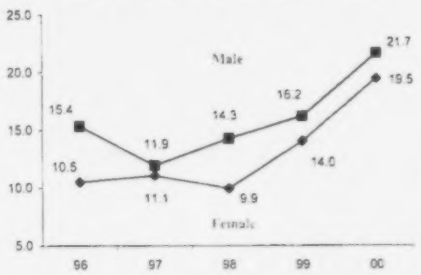
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented

♦ AP Mathematics (Calculus AB, Calculus BC, & Statistics)

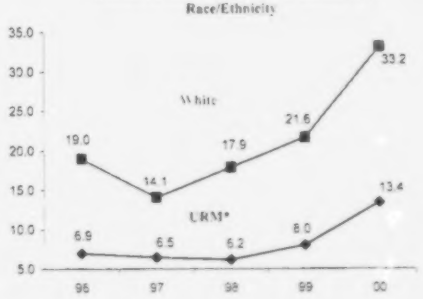
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender

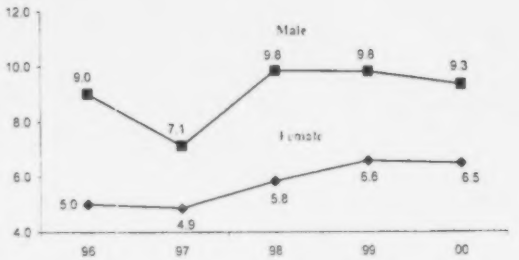


Number of tests taken per 1,000 students by Race/Ethnicity



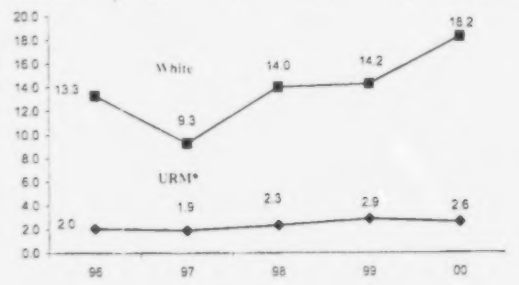
♦ AP Mathematics - Number of Students Scoring Above 3 By Gender per 1,000 Students

		96	97	98	99	00
Score Above 3 per 1,000	Male	9.0	7.1	9.8	9.8	9.3
	Female	5.0	4.9	5.8	6.6	6.5



♦ AP Mathematics - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [*1]

	96	97	98	99	00
AI/AN	0.0	34.5	38.5	0.0	35.7
A/PI	64.5	36.5	37.3	49.5	51.0
B/AA	0.6	2.8	0.8	0.4	1.2
H/L	2.2	1.7	2.5	3.3	2.7
W	13.3	9.3	14.0	14.2	18.2



*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

AP Science Test Result Trends

♦ AP Science - Total Number of Tests Taken

		96	97	98	99	00
Total Num of 11th & 12th students		24,039	25,479	26,610	26,910	27,992
Tests Taken	Biology	171	190	190	246	226
	Chem.	46	68	90	72	73
	Enviro. Sci	0	0	1	1	6
	Physics B	17	12	10	37	41
	Ph. C Mech.	45	37	34	32	44
	Ph. C Elec.	17	18	13	20	21
	Total	**296**	**325**	**338**	**408**	**411**
Num of tests-taken/1,000 stu.		12.3	12.8	12.7	15.2	14.7
Scoring Above 3		191	157	164	150	151
Num of Above 3/ 1,000 students		7.9	6.2	6.2	5.6	5.4

♦ AP Science - Number of Tests Taken By Gender Per 1,000 Students

		96	97	98	99	00
Tests Taken per 1,000	Male	14.8	13.5	14.6	13.4	15.0
	Female	9.9	12.0	10.9	16.9	14.4

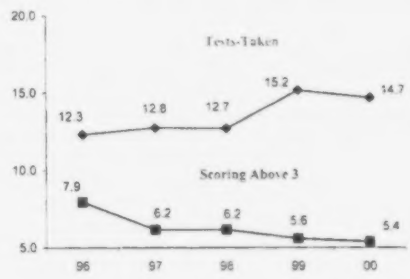
♦ AP Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [*1]

	96	97	98	99	00
AI/AN	83.3	69.0	0.0	0.0	142.9
A/PI	142.9	73.1	54.9	51.4	63.8
B/AA	99.3	60.2	63.0	63.8	72.7
H/L	5.0	8.3	8.2	12.5	10.7
W	20.9	14.1	15.9	17.0	20.7

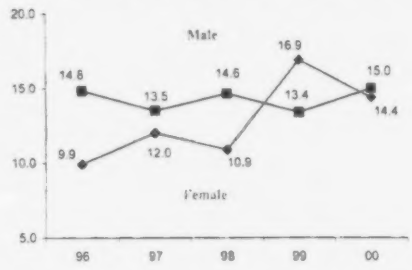
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented

♦ AP Science (Biology, Chemistry, Environ. Sci., Phy. B, Phy. C Mech., & Phy. C Elec.

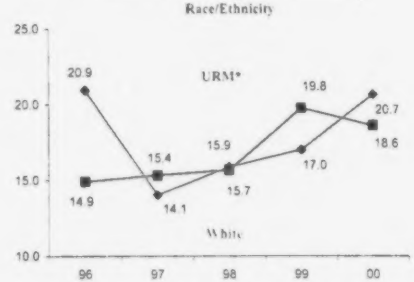
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender

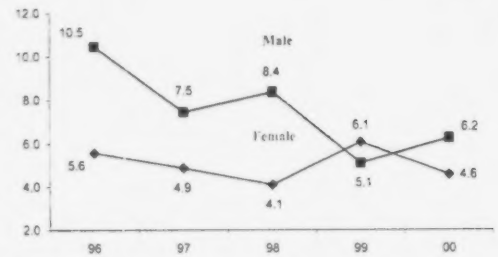


Number of tests taken per 1,000 students by Race/Ethnicity



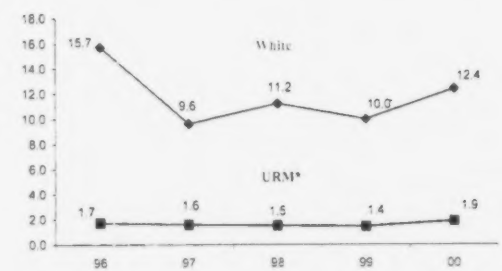
♦ AP Science - Number of Students Scoring Above 3 By Gender Per 1,000 Students

Score Above 3 per 1,000	96	97	98	99	00
Male	10.5	7.5	8.4	5.1	6.2
Female	5.6	4.9	4.1	6.1	4.6



♦ AP Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [*1]

	96	97	98	99	00
AI/AN	41.7	69.0	0.0	0.0	35.7
A/PI	129.0	43.4	37.3	38.1	30.6
B/AA	0.6	0.9	0.8	0.4	0.8
H/L	1.8	1.6	1.6	1.6	1.9
W	15.7	9.6	11.2	10.0	12.4



*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

AP Computer Science Test Result Trends

• AP Computer Science - Total Number of Tests Taken

		96	97	98	99	00
Total Num of 11th & 12th students		24,039	25,479	26,610	26,910	27,992
Tests Taken	Comp. Sci A	80	70	38	66	96
	Comp. Sci. AB	8	5	1	16	19
	Total	**88**	**75**	**39**	**82**	**115**
Num of tests-taken/1,000 stu.		3.7	2.9	1.5	3.0	4.1
Scoring Above 3		59	44	19	46	65
Num of Above 3/ 1,000 students		2.5	1.7	0.7	1.7	2.3

• AP Computer Science - Number of Tests Taken By Gender

Per 1,000 Students

		96	97	98	99	00
Tests Taken per 1,000	Male	5.2	3.5	1.9	4.6	6.3
	Female	2.2	2.4	1.0	1.5	1.9

• AP Computer Science - Number of Tests Taken By Race/Ethnicity

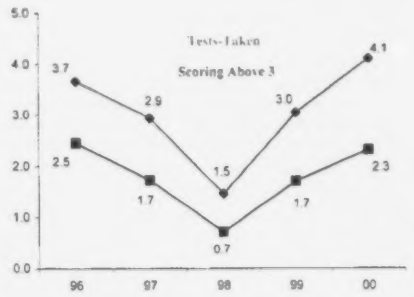
Per 1,000 Students [*1]

	96	97	98	99	00
AI/AN	41.7	0.0	0.0	27.0	35.7
A/PI	13.8	13.7	2.0	13.3	20.4
B/AA	1.8	0.9	0.4	0.8	2.1
H/L	1.7	1.5	0.7	2.2	1.4
W	6.4	4.2	2.2	4.0	9.1

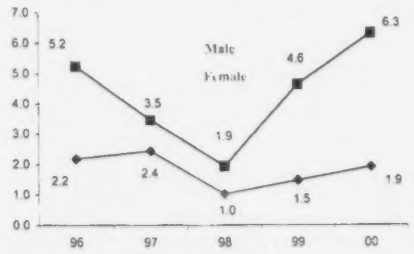
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented

• AP Computer Science (Computer Science A & AB)

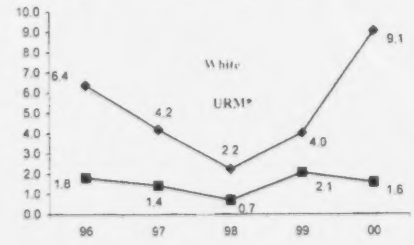
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender

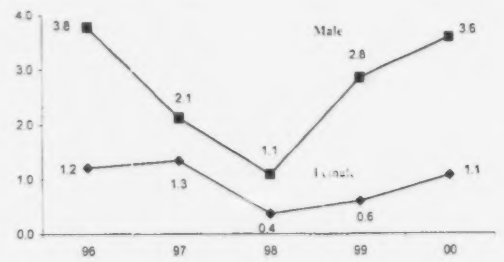


Number of tests taken per 1,000 students by Race/Ethnicity



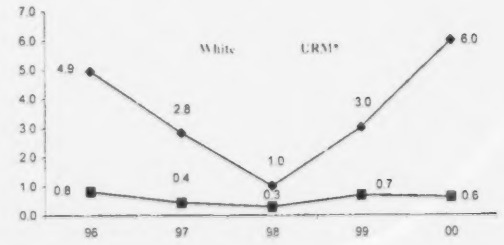
• AP Computer Science - Number of Students Scoring Above 3 By Gender per 1,000 Students

		96	97	98	99	00
Score Above 3 per 1,000	Male	3.8	2.1	1.1	2.8	3.6
	Female	1.2	1.3	0.4	0.6	1.1



• AP Computer Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [*1]

	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	17.9
A/PI	13.8	9.1	2.0	9.5	10.2
B/AA	0.0	0.0	0.4	0.0	1.2
H/L	0.9	0.5	0.3	0.8	0.5
W	4.9	2.8	1.0	3.0	6.0



*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

ACT Test-Takers

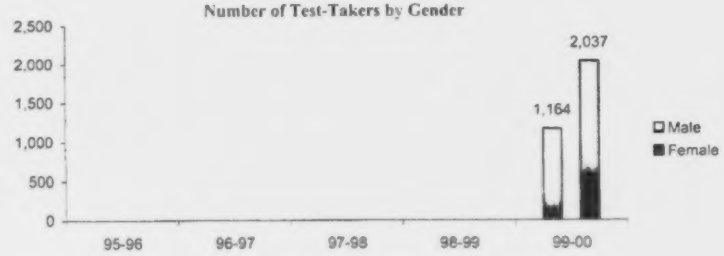
♦ **Number of Test-Takers**

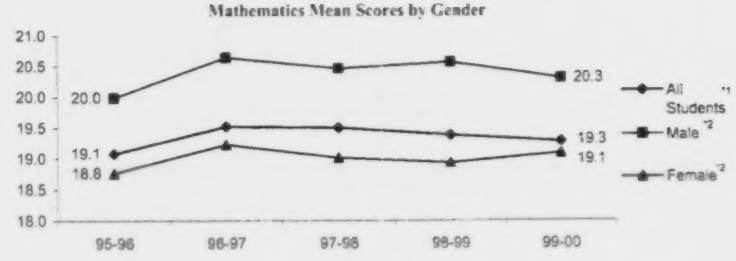
		95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		11,063	11,704	12,188	12,425	12,900
Test-Takers		2,844	3,076	3,144	3,084	3,201
Num of Test-Takers/1,000 Stu.		257	263	258	248	248
Gender	Male	.	.	.	.	1,164
	Female	.	.	.	.	2,037
Race/Ethnicity	AA/B	.	.	.	.	348
	AI/AN	.	.	.	.	9
	CA/W	.	.	.	.	988
	MA/C	.	.	.	.	1,373
	A/PI	.	.	.	.	88
	PR/H	.	.	.	.	124

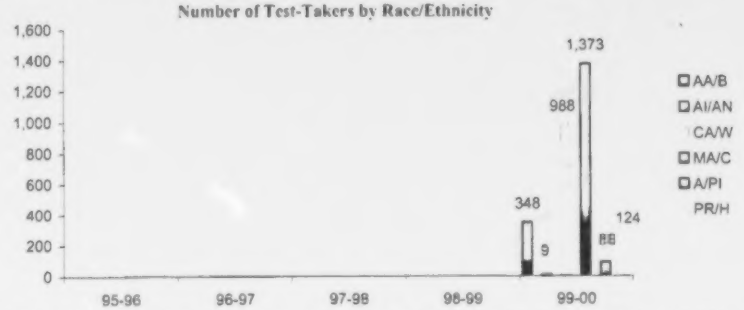
ACT Mathematics Scores

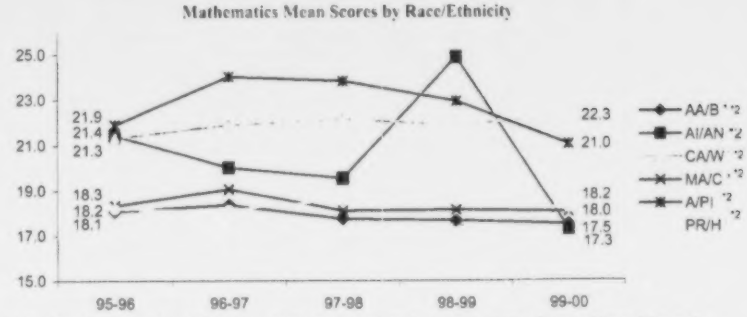
♦ **Mathematics - Mean Score Trends**

		95-96	96-97	97-98	98-99	99-00
All Students *1		19.1	19.5	19.5	19.4	19.3
Gender	Male *2	20.0	20.6	20.5	20.6	20.3
	Female *2	18.8	19.2	19.0	18.9	19.1
Race/Ethnicity	AA/B *2	18.1	18.3	17.7	17.7	17.5
	AI/AN *2	21.4	20.0	19.5	24.9	17.3
	CA/W *2	21.3	21.9	22.1	21.9	22.3
	MA/C *2	18.3	19.0	18.1	18.1	18.0
	A/PI *2	21.9	24.0	23.8	22.9	21.0
	PR/H *2	18.2	18.1	18.6	18.5	18.2









AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.

*1 Mean scores presented for all 9 school districts.

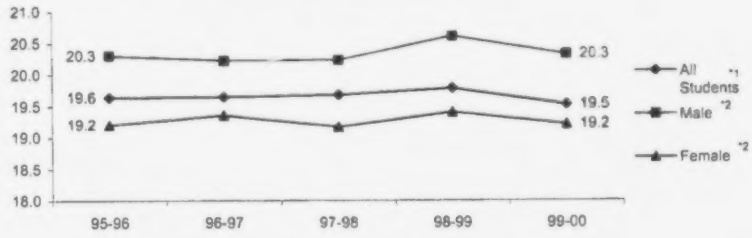
*2 Mean scores available for 4 districts (Harlandale, North East, North Side, and San Antonio).

ACT Science Reasoning Scores

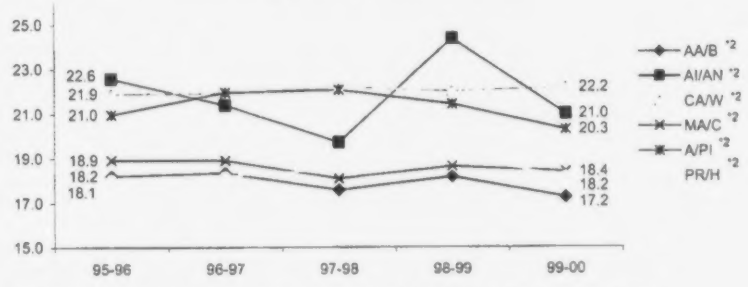
♦ **Science Reasoning - Mean Score Trends**

		95-96	96-97	97-98	98-99	99-00
All Students *1		19.6	19.7	19.7	19.8	19.5
Gender	Male *2	20.3	20.2	20.2	20.6	20.3
	Female *2	19.2	19.4	19.2	19.4	19.2
Race/Ethnicity	AA/B *2	18.2	18.3	17.6	18.2	17.2
	AI/AN *2	22.6	21.4	19.7	24.4	21.0
	CA/W *2	21.9	21.9	22.2	22.0	22.2
	MA/C *2	18.9	18.9	18.1	18.6	18.4
	A/PI *2	21.0	22.0	22.1	21.4	20.3
	PR/H *2	18.1	18.2	18.5	19.0	18.2

Science Reasoning Mean Scores by Gender



Science Reasoning Mean Scores by Race/Ethnicity



AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.

*1 Mean scores presented for all 9 school districts.

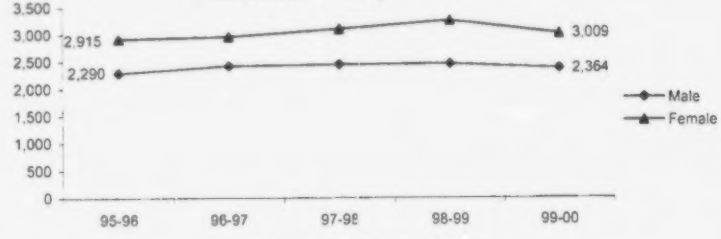
*2 Mean scores available for 4 districts: Harlandale, North East, North Side, and San Antonio.

SAT Test-Takers

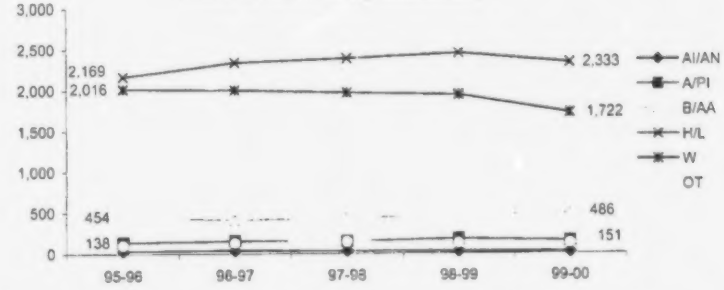
♦ **Number of Test-Takers**

		95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		11,063	11,704	12,188	12,425	12,900
Test-Takers		5,205	5,377	5,536	5,703	5,373
Num of Test-Takers/1,000 Stu.		470	459	454	459	417
Gender	Male	2,290	2,420	2,436	2,452	2,364
	Female	2,915	2,957	3,100	3,251	3,009
Race/Ethnicity	AI/AN	35	42	30	26	17
	A/PI	138	156	148	180	151
	B/AA	454	412	435	464	486
	H/L	2,169	2,341	2,388	2,452	2,333
	W	2,016	2,003	1,969	1,943	1,722
	OT	104	132	145	125	126

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

SAT Mathematics Scores

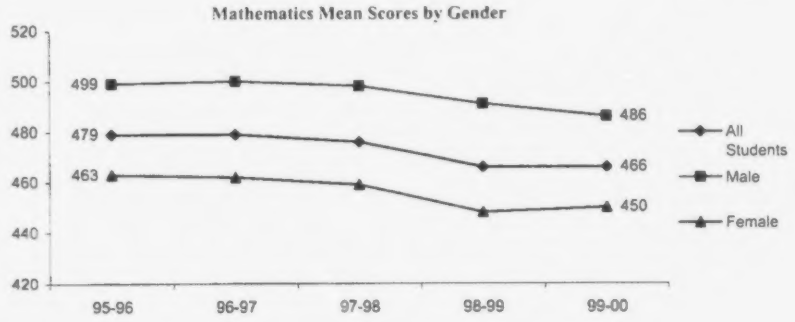
♦ **Mathematics - Mean Score Trends**

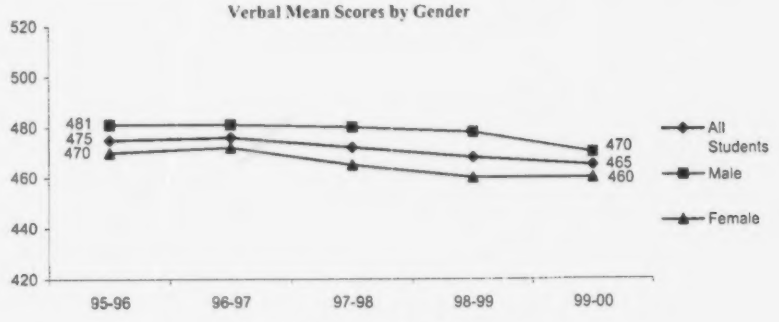
		95-96	96-97	97-98	98-99	99-00
All Students		479	479	476	466	466
Gender	Male	499	500	498	491	486
	Female	463	462	459	448	450
Race/Ethnicity	AI/AN	495	501	465	474	498
	A/PI	550	544	534	526	521
	B/AA	428	423	425	412	400
	H/L	445	445	441	432	432
	W	528	530	533	525	531
	OT	488	493	487	480	481

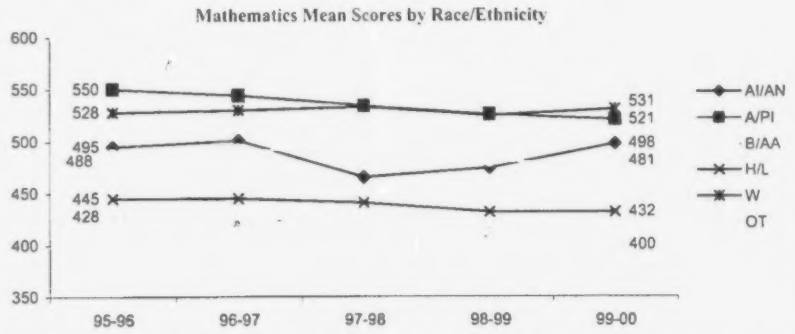
SAT Verbal Scores

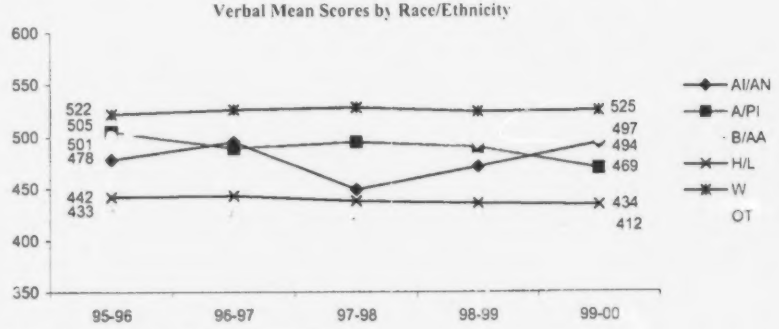
♦ **Verbal - Mean Score Trends**

		95-96	96-97	97-98	98-99	99-00
All Students		475	476	472	468	465
Gender	Male	481	481	480	478	470
	Female	470	472	465	460	460
Race/Ethnicity	AI/AN	478	495	449	471	494
	A/PI	505	489	495	490	469
	B/AA	433	428	424	420	412
	H/L	442	443	438	436	434
	W	522	526	528	524	525
	OT	501	513	511	495	497









AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

San Antonio USI

Cohort/Scale-Up Approach

	96-97	97-98	98-99	99-00
Number of District Schools*:	*290*	*290*	290	288
USI Schools**:	88	148	225	269
% Schools:	30%	51%	78%	93%

*Core Data Elements 2000-2001; ** K-1 2001

Italics: Data Imputed

Primary Decision Making Body

Standards Curriculum	State
Curriculum/TextBook Adoption	District
Student Assessment	State
Professional Development	School
Resources	District
Teacher Hiring	District
Teacher Contracts	District
Certification & Re-certification	State
Graduation Requirements	District
School-Based Management?	Yes

Policies Promoting Equal Access by All Students in High Quality Education

Student Tracking:
- Unified mathematics and science curriculum for all students

Criteria for Entry into High Level Mathematics and Science Courses:
- Varies by district

Availability of High Level Courses:
- Courses available to all

Other:
- Algebra taught only as one year course

Special Education and Bilingual Students:
- Not exempt from Texas Education Agency (TEA) accountability
- Must pass Algebra I and Biology I for graduation

Policies Impacting the Enrollment of Students in Challenging Math and Science Courses

Attendance :
- State mandated

Guidance:

Student Support Systems:
- Varies by district

Others:

Policies Relevant to Curriculum

Framework:
- Texas Essential Knowledge and Skills

Curriculum:
- Based on State Standards

Curriculum Materials:
- Investigations in Number, Data and Space
- Mathland
- Everyday Mathematics
- Connected Mathematics Project
- Full Option Science System (FOSS)
- Science and Technology for Children (STC)
- Science Education for Public Understanding (SEPUP)
- Core Plus
- ChemCom

New Courses Added as a Result of USI :
- None Reported

Instructional Time:
- TEA mandated; local control

Standards-based Curriculum and Instruction

Standards Adopted:

Primary Instructional Strategies:
- E, M: Hands-on
- Primarily lecture, but increasingly hands-on

% of Students Experiencing Standards-based Mathematics Curriculums:	E: 100% M: 100% H: 100%
% of Students Experiencing Standards-based Science Curriculums:	E: 100% M: 70% H: 100%

Policies Relevant to Teacher Qualifications

Certification:
- TEA mandated, local

Requirement & Hiring Practices
- TEA mandated, local control
- Teachers must seek certification within 2 years.

Professional Advancement & Leadership Training:
- TEA mandated, local control

Contract Requirements:
- TEA mandated, local control

E: Elementary School M: Middle School H: High School

Professional Development Policies and Practices

Time Required or Supported:	• 30 hours
Financial Resources Provided:	• Stipends paid to teachers for summer training and workshops • Provision for substitutes and alternative schedules
Alignment to Student Standards:	• SAUSI provides state and national standards training in Peer Summer Institutes
Measurement of Impact:	• SAUSI provides ongoing student measurement and classroom observations of peer classrooms
Type and Amount Received by Average Math/Science Teacher:	• Over 60 hours of standards based training
Evaluation Instruments:	

Professional Development Alignment to Content Standards Measures:	
Teacher's Instructional Practices Evaluation:	• Teacher specialists visit classroom for follow-up and observation • Campus administrators evaluate by observation
Impact on Student Achievement:	• Texas Assessment of Academic Skills (TAAS) and Stanford Achievement Test (SAT-9) results

Policies Relevant to Standards-based Assessments

Extent to Which Assessments are Aligned to District Standards and Curriculums:	• Aligned with Texas Essential Knowledge and Skills
Methods stakeholders are informed of goals, objectives and accomplishments of assessment program:	• Presentations • Newsletter • New coverage • Math and science in the mall • Web page

USI Leadership, Governance, and Management

Superintendent:	• 9 district superintendents • Despite 19 changes in superintendents over the life of SAUSI, all superintendents have signed cooperative policy statements and work quarterly with SAUSI to achieve objectives • Administrative mathematics and science supervisors meet monthly and assist superintendents
USI Office:	• Principal Investigator: replaced mid year 1999 • Project Director: no change • Science Assistant Director: no change • Mathematics Assistant Director: no change • Evaluator: no change
Community Key Personnel:	• Mayor replaced mid year 1999 • University of Texas San Antonio (partner) retired and was replaced • EEC • Department of Community Initiatives
Teacher Leaders:	• Master teachers borrowed from each of the 9 districts to serve as Mentors

San Antonio USI

Partnerships

Other Key Initiatives:	• Project 2061 • Region 20 (TEA Service Center) • District Implementation Team (renamed AT Committee) •San Antonio Technology in Education Coalition (SATEC) ($5 million technology grant servicing 2 SAUSI districts) • Better Jobs Initiative • UTSA K-16 Initiative
Community Stakeholders:	• Council of Senior Advisors from business community • Chamber of Commerce • Mayor's Better Jobs Collaborative • Math and Science in the Mall • San Antonio Zoo
Higher Education:	• University of Texas San Antonio • Our Lady of the Lake • Incarnate Word University
Business and Industry:	
Other Partnerships:	

Policy Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	•9 separate, totally independent districts all responsible to the state accountability system •No history of the 9 districts collaborating •Tracking prevalent
1996-97	•9 districts work together to establish common policies across the city to insure systemic mathematics and science reform •9 district superintendents meet quarterly to discuss SAUSI implementation and mathematics and science resource allocation
1997-98	•Campus Improvement Plans (CIP) mandated by the TEA: mathematics and science reform a key part of CIP's.
1998-99	•Resolution passed by each of the 9 school districts: written document that made goals, continued fiscal support, and a unitary and consistent approach leading to the implementation of standards-based curriculum and instruction
1999-00	•All nine school districts agreed to a list of specific targets to improve MST instruction
2000-01	•No changes reported

Curriculum and Instruction Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	•Standards based mathematics curricula present in only 1 district; other 8 districts used state approved textbooks •Standards-based instruction present in few classrooms citywide •Algebra I available as 1 or 2 year course
1996-97	•3 Master Teachers borrowed from each district to assist in the implementation of standards-based mathematics and science instruction
1997-98	•Districts contributed over $800,000 to supplement SAUSI standards-based purchases for campuses despite 1997-98 a non textbook adoption year
1998-99	•Advanced placement/Pre-AP focus including leverage of funds and resources for classroom level implementation •Mathematics textbook adoption year for state of Texas: 7 districts voted for standards-based curriculum, and 2 districts voted for use of kit-based mathematics as supplements to textbooks that conformed to Texas Essential Knowledge and Skills criteria •3 new supervisory positions created at district level to work with their districts' and campuses' implementing standards-based instruction
1999-00	•14 new supervisory positions to support implementation of standards-based curriculum
2000-01	•No changes reported

Professional Development Policy and Program Changes to Support Teachers During USI Implementation

School Year	Policy Implemented
Before USI	◦Independent districts provided their own ◦Science professional development not aligned to state or national standards
1996-97	◦Mentor teachers and SAUSI trained peers in the summer and then provided ongoing professional development and support over the year ◦Districts approved funding for classroom teachers to attend summer training and additional workshops by providing stipends that exceeded previous amounts allocated for such training
1997-98	◦Each district agreed to allocate 2 days per year to professional development in mathematics and science reform, hosted by SAUSI including faculty, staff and paraprofessionals ◦Campus administrators from all districts participate in SAUSI training in standards-based instruction ◦Districts and campuses made policy to allow teacher substitutes, alternative schedules, and other plans to provide peers time to work with Mentors and attend professional development sessions
1998-99	◦SAUSI Mathematics and Science Bilingual and Limited English Proficient Teacher Seminar
1999-00	◦5 day equity institute provided ◦5 day technology institute ◦Academics content offered in math and science

Standards-based Assessment System Changes During USI Implementation

School Year	Policy Implemented
Before USI	◦Texas Assessment of Academic Skills is the criterion based state accountability measure in Mathematics G3-8,10, Algebra I, Science in G8 and Biology I
1996-97	◦No changes reported
1997-98	◦Stanford Achievement Test, (SAT-9) opened ended in mathematics and science G33,8,88
1997-98	◦No changes reported
1998-99	◦SAT/9 open-ended in math and science in grades 3, 5, 8
1999-00	◦PASS performance assessment in science administered to 1800 5th grade students.

School District Progress Report

March 2002

Urban School Key Indicators of Science and Mathematics Education, 2001

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San Diego USI

Project Information

USI Project Title: San Diego USI
Cohort: 95 (Sept. 96 - Aug. 00)
USI Web Site:

• PI, CO-PI and PD

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• USI Data Manager

Ms. Georganna L. Hancock
Data Coordinator
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ghancock@mail.sandi.net

• Mailing Address

San Diego Unified School District
4100 Normal Street
San Diego, CA 92103

• USI Schools Math & Sci. Teachers and Students

99-00	Schools	Teachers	Students
K-G5 (Elementary)	128		
G6-8 (Middle)	24		
G9-12 (High)	19		
Total	171		

( ) Data Missing

Project Summary

The San Diego Urban Systemic Initiative (SD-USI) is designed to be systemic in nature, rather than an additional "project" layer that remains separate from the overall operation of the district. The initiative is aligned with the district vision and mission, and incorporates an implementation strategy utilizing the district's organizational structure and accountability measures for the achievement of the USI goals. USI's design supports and supplements other major initiatives, including the National Alliance for Restructuring, New Standards Project, the Edna McDonnell Clark Foundation, and the Program for Student Achievement. The district will utilize assorted program funds together with USI funds, which will connect separately funded programs and ensure an integrated implementation strategy across the district and in the schools.

Project Goals

- **Systemic Support**

Graduation requirements will be increased, schools will be held accountable for ambitious outcomes, and resources will be allocated to support improvement. Leadership and organization of instructional programs will be strengthened.

- **School Site Capacity and Community Involvement**

Schools will address both mathematics and science in their comprehensive site plans, key teachers will be put in place, and supportive family and community participation will be sought.

- **Learning Environment and Student Opportunities**

Rigorous content and performance standards will be implemented, and students will have access to academic support. Student achievement will increase and all students will meet the challenge of the district's standards in mathematics and science.

- **School Staff Quality**

Teachers will have ongoing opportunities for professional development in mathematics and science at their school site, at summer camps, at district centers, and at area colleges and universities.

Selected School Indicators (District Average)

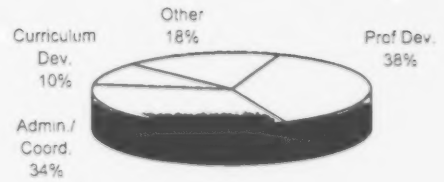
	95-96	99-00	Change
%Special Ed.	9.6%		
%LEP	27.4%	28.4%	+1.0 PP
%FRL	59.7%	58.1%	-1.6 PP
%Daily Ave. Atten.	93.7%	95.2%	+1.5 PP
%Average Retained	2.7%		
%Drop-Out	2.2%	2.6%	+0.4 PP
%Mobility	40.8%	33.8%	-7.0 PP
Per Pupil Cost ($)			
Num of Students Per Computer			
% Classrooms Internet Access			
Average Class Size			

PP: Percentage Points

District and USI Fund Utilization (SY 1999-00)

	District	USI
Prof. Dev.	2%	38%
Admin./Coord.	58%	34%
Curriculum Dev.	3%	10%
Other	37%	18%
Total	100%	100%

USI Funds %



San Diego USI

Student Demographics (SY 1999-00)

District Total: 139,367
USI Schools:

♦ Race/Ethnicity

	95-96	99-00	%	Change
Ame. Ind./Ala. Nat.	891	873	0.6%	-2.0%
Asian/P. Islander	24,957	25,311	18.2%	+1.4%
Black	22,017	23,021	16.5%	+4.6%
Hispanic	43,347	51,876	37.2%	+19.7%
White	39,148	38,286	27.5%	-2.2%
Other	0	0	0.0%	-
Total	130,360	139,367		+6.9%
URM Total	66,255	75,770	54.4%	+14.4%

URM: Underrepresented Minority students.

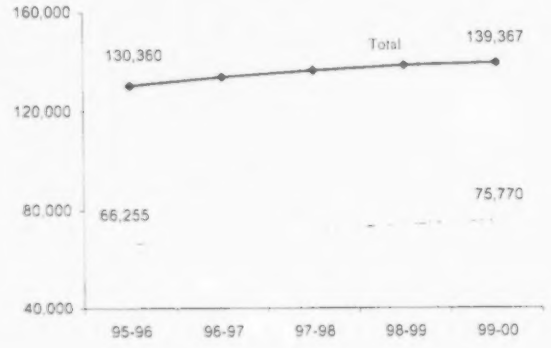
♦ Gender

Male	66,614	71,256	51.1%	+7.0%
Female	63,746	68,111	48.9%	+6.8%

♦ Grade

K-G5	68,105	72,807	52.2%	+6.9%
G6-8	29,214	31,348	22.5%	+7.3%
G9-12	31,758	34,812	25.0%	+9.6%
Ungraded	1,283	400	0.3%	-68.8%

♦ District-Wide Student Demographic Trends



12th Grade Graduates

	95-96	99-00	Change
Total 12th Grade			
Earned a Diploma			
% Earned Diploma			

% Earned Diploma

College Entrance

	95-96	99-00	Change
2 Yr College			
4 Yr College			
Other Post-Secon.			
Total C. E.			
% C. E./Earned Dip.			

% College Entrance

High School Graduation Requirements SY 99-00

- Mathematics
  - 3 years
  - Designated courses with Algebra beginning in the 8th grade Geometry and Algebra 2 before graduation.
- Science
  - 2 years
  - Designated courses Biology and Chemistry or Physics

(·) Data Missing

Math and Science Teachers & Certification

♦ Mathematics (G6-12)

		97-98	99-00	Change
G6-8	Teachers	340	430	+26.5%
	Certified			
	% Cert.			
G9-12	Teachers	282	339	+20.2%
	Certified			
	% Cert.			
Total	Teachers	622	769	+23.6%
	Certified			
	% Cert.			

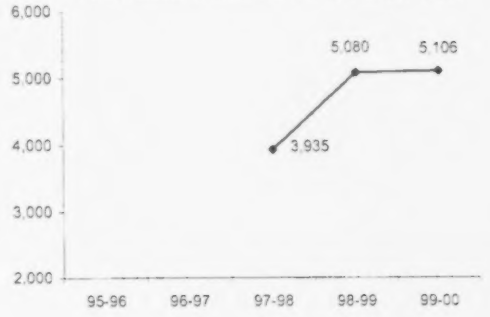
♦ Science (G6-12)

		97-98	99-00	Change
G6-8	Teachers	192	271	+41.1%
	Certified			
	% Cert.			
G9-12	Teachers	189	274	+45.0%
	Certified			
	% Cert.			
Total	Teachers	381	545	+43.0%
	Certified			
	% Cert.			

♦ Math and Science (K-G5)

		97-98	99-00	Change
K-G5	Teachers	2,932	3,792	+29.3%

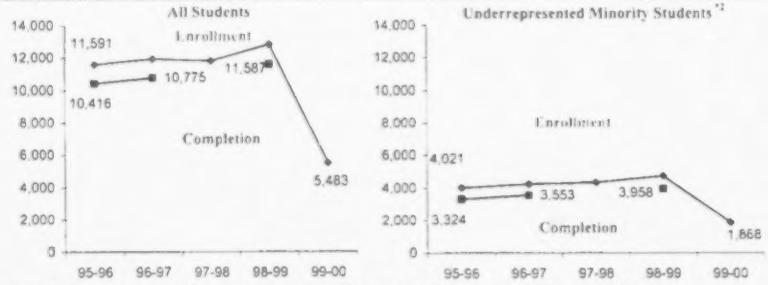
Total Number of Math and Sci. Teachers (K-G12)



Mathematics and Science Enrollment &Completion Trends/ All vs. URM

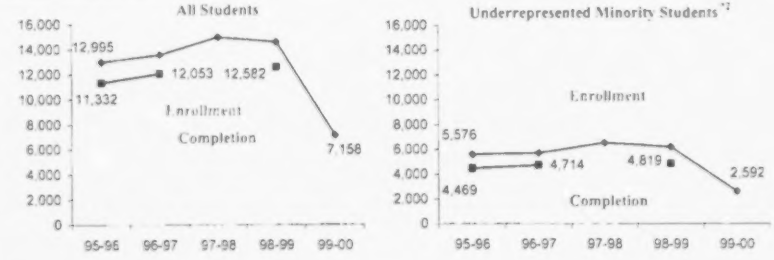
G 9-12 Mathematics Gate-Keeping Courses (Algebra II, Geo., and Calculus)

		95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		31,758	32,946	34,200	34,723	34,812
All Students	Enrollment	11,591	11,930	11,809	12,821	5,483
	Completion *1	10,416	10,775	.	11,587	.
	% Enroll/ G9-12	36%	36%	35%	37%	16%
URM *2	Enrollment	4,021	4,242	4,350	4,728	1,868
	Completion *1	3,324	3,553	.	3,958	.
	% Enroll/ G9-12	28%	28%	27%	29%	11%



G 9-12 Science Gate-Keeping Courses (Biology 1, Chem. 1, and Physics 1)

		95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		31,758	32,946	34,200	34,723	34,812
All Students	Enrollment	12,995	13,560	14,985	14,595	7,158
	Completion *1	11,332	12,053	.	12,582	.
	% Enroll/ G9-12	41%	41%	44%	42%	21%
URM *2	Enrollment	5,576	5,695	6,507	6,169	2,592
	Completion *1	4,469	4,714	.	4,819	.
	% Enroll/ G9-12	38%	37%	40%	38%	16%



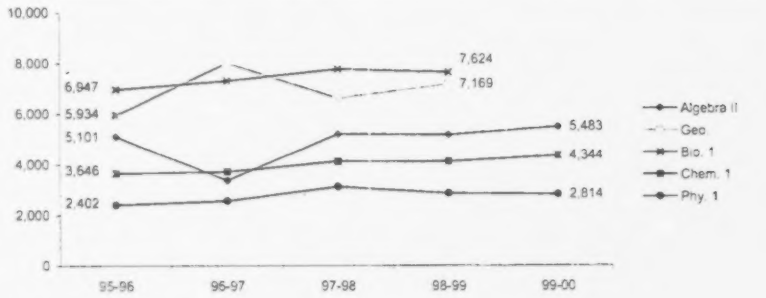
*1 Successful completion: grade 'D' or above (.) Data Missing

*2 Underrepresented Minority students(American Indian/Alaskan Native, Black, and Hispanic)

Mathematics and Science Enrollment & Completion Trends By Subject

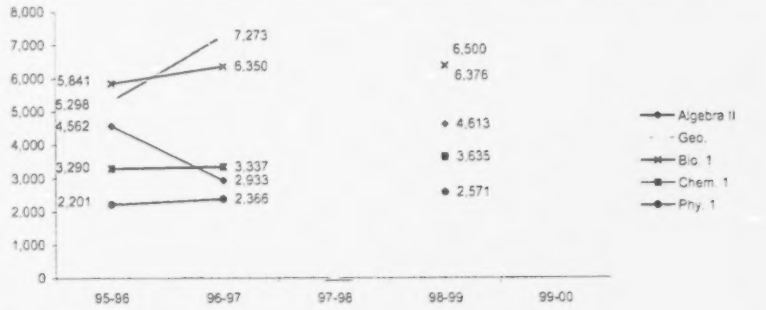
G 9-12 Course Enrollment (All Students)

	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
95-96	5,101	5,934	556	11,591	6,947	3,646	2,402	12,995
96-97	3,357	7,998	575	11,930	7,295	3,707	2,558	13,560
97-98	5,202	6,607	.	11,809	7,753	4,115	3,117	14,985
98-99	5,176	7,169	476	12,821	7,624	4,113	2,858	14,595
99-00	5,483	.	.	5,483	.	4,344	2,814	7,158



G 9-12 Course Completion *1 (All Students)

	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
95-96	4,562	5,298	556	10,416	5,841	3,290	2,201	11,332
96-97	2,933	7,273	569	10,775	6,350	3,337	2,366	12,053
97-98	.	.	.	.	.	.	.	.
98-99	4,613	6,500	474	11,587	6,376	3,635	2,571	12,582
99-00	.	.	.	.	.	.	.	.



*3 Calculus not represented on graph.

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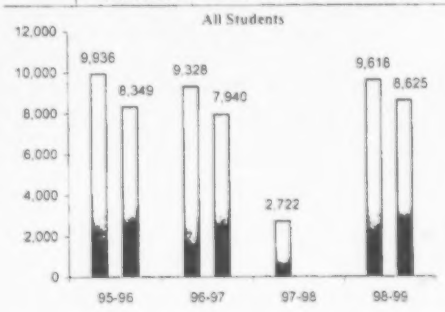
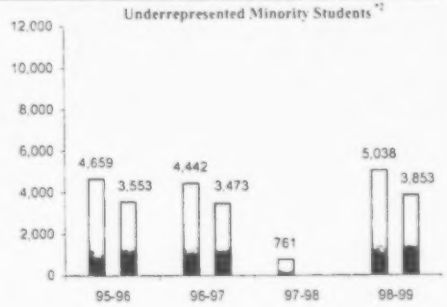
Algebra I or Above in 8th Grade Enrollment & Completion Trends/ All vs. URM

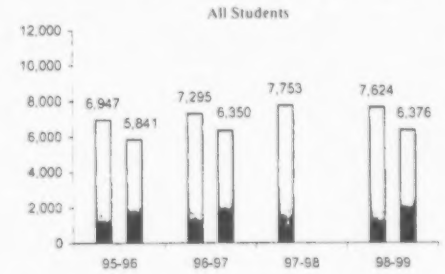
		95-96	96-97	97-98	98-99	99-00
Total G 8 Population		9,353	9,637	9,785	9,738	10,189
All Students	Enrollment	9,936	9,328	2,722	9,618	
	Completion *1	8,349	7,940		8,625	
	% Enroll/ G8	106%	97%	28%	99%	
URM *2	Enrollment	4,659	4,442	761	5,038	
	Completion *1	3,553	3,473		3,853	
	% Enroll/ G8	100%	92%	15%	102%	

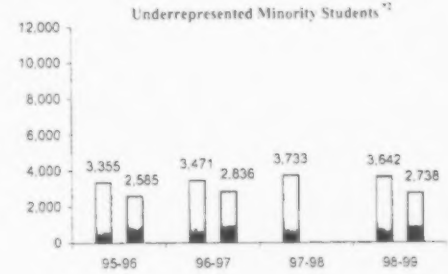




Biology Enrollment & Completion Trends/ All vs. URM

		95-96	96-97	97-98	98-99	99-00
All Students	Enrollment	6,947	7,295	7,753	7,624	
	Completion *1	5,841	6,350		6,376	
URM *2	Enrollment	3,355	3,471	3,733	3,642	
	Completion *1	2,585	2,836		2,738	





*1 Successful completion: grade 'D' or above

*2 Underrepresented Minority students(American Indian/Alaskan Native, Black, and Hispanic)

( ) Data Missing

Professional Development Participation of Teachers Teaching Mathematics and/or Science

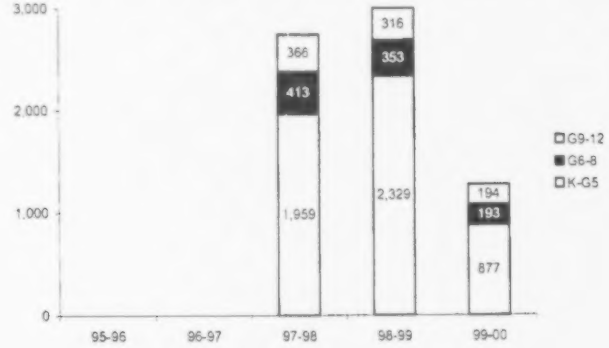
Total Number Teachers by Subject (G6-12)

	95-96	96-97	97-98	98-99	99-00
Mathematics			622	766	769
Science			381	542	545

Total Number of Teachers Participating in PD by Grade Level

Teachers	95-96	96-97	97-98	98-99	99-00
Total K-G5			2,932	3,772	3,792
# K-G5 Participated			1,959	2,329	877
% K-G5 Participated			67%	62%	23%
Total G6-8			532	701	701
# G6-8 Participated			413	353	193
% G6-8 Participated			78%	50%	28%
Total G9-12			471	607	613
# G9-12 Participated			366	316	194
% G9-12 Participated			78%	52%	32%

Number of Teachers Participating in Professional Development by Grade Level Taught



Number of Teachers by Duration of Professional Development

	95-96	96-97	97-98	98-99	99-00
1-59 Hours			2,467	2,983	1,126
60-119 Hours			271	15	122
120-200 Hours			0	0	2
More than 200 Hours			0	0	14

District Assessment Test Administered

♦ Mathematics

	95-96	96-97	97-98	98-99	99-00
Test Name					
Scoring					
Grade					
Type					

♦ Science

	95-96	96-97	97-98	98-99	99-00
Test Name					
Scoring					
Grade					
Type					

State Assessment Test Administered

♦ Mathematics

	95-96	96-97	97-98	98-99	99-00
Test Name	Abr. SAT9	Abr. SAT9	SAT9	SAT9	SAT9
Scoring	PC, SS	PC, SS	PC, SS	PC, SS	PC, SS
Grade	G2-10	G2-10	G2-11	G2-11	G2-11
Type	NRT	NRT	NRT	NRT	NRT

♦ Science

	95-96	96-97	97-98	98-99	99-00
Test Name			SAT9	SAT9	SAT9
Scoring			PC, SS	PC, SS	PC, SS
Grade			G2-11	G2-11	G2-11
Type			NRT	NRT	NRT

* SAT9: Stanford Achievement Test 9

Abr. SAT9: Abbreviated version of Stanford Achievement Test

PC: Percentile SN: Stanine PL: Performance Level

PF: Pass/Fail SS: Scaled Score OT: Other

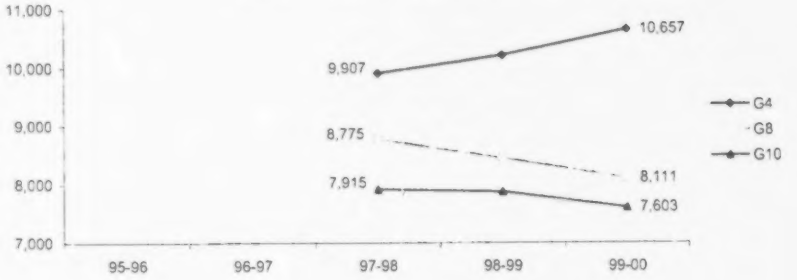
NRT: Norm-Referenced Test CRT: Criterion-Referenced Test

State Assessment Test-Taker Trends - Stanford Achievement Test 9 (SAT 9)

♦ Mathematics

# of Test Takers	95-96	96-97	97-98	98-99	99-00
Grade 4			9,907	10,217	10,657
Grade 8			8,775	8,455	8,111
Grade 10			7,915	7,870	7,603

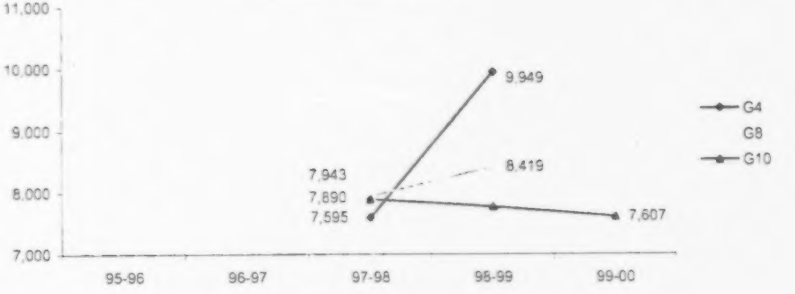
Total number of students taking test



♦ Science

Takers	95-96	96-97	97-98	98-99	99-00
Grade 4			7,595	9,949	
Grade 8			7,943	8,419	
Grade 10			7,890	7,768	7,607

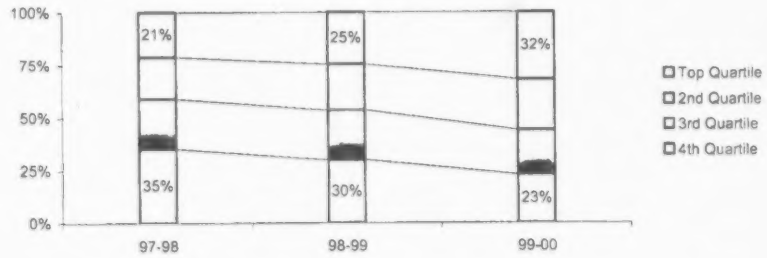
Total number of students taking test

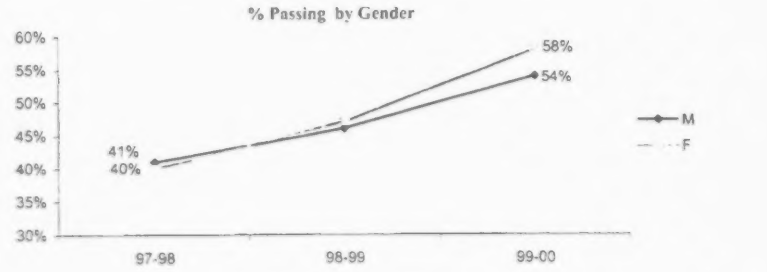


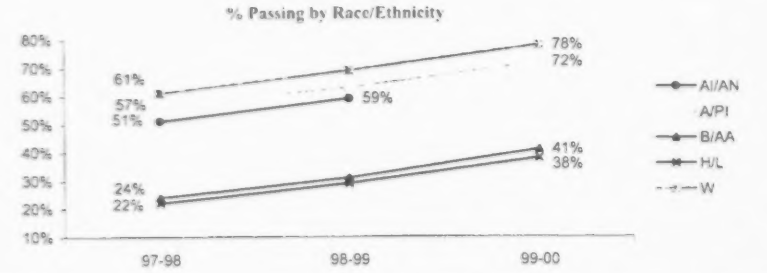
State Assessment Test Result Trends - SAT 9 Mathematics

♦ Grade 4

Quartiles	95-96	96-97	97-98	98-99	99-00
Top Quartile			21%	25%	32%
2nd Quartile			20%	22%	24%
3rd Quartile			24%	24%	21%
4th Quartile			35%	30%	23%
Total num of students			9,907	10,217	10,657



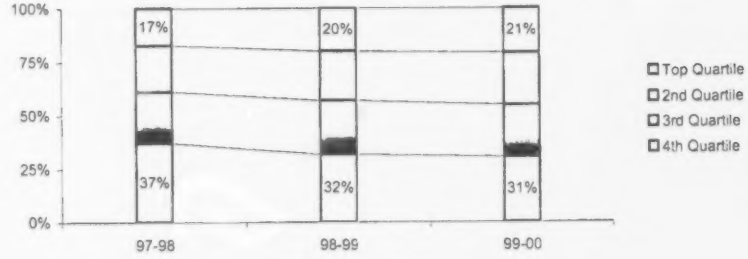


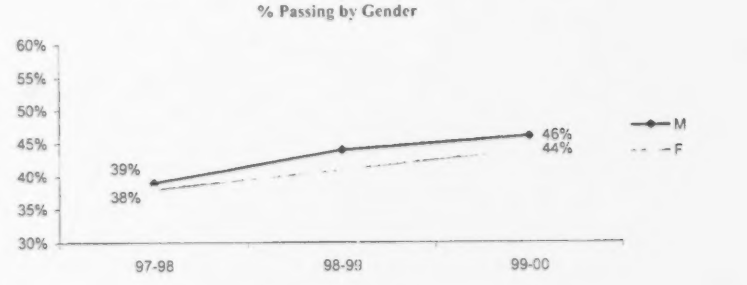


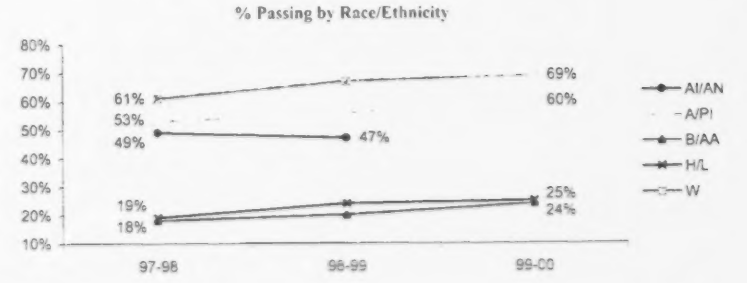
State Assessment Test Result Trends - SAT 9 Mathematics

♦ Grade 8

Quartiles	95-96	96-97	97-98	98-99	99-00
Top Quartile			17%	20%	21%
2nd Quartile			21%	23%	24%
3rd Quartile			24%	25%	24%
4th Quartile			37%	32%	31%
Total num of students			8,775	8,455	8,111







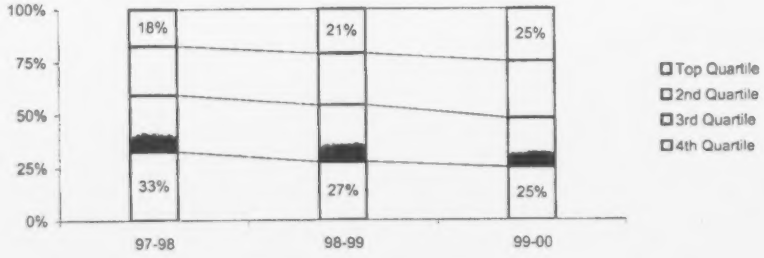
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing is defined as Top Quartile + 2nd Quartile

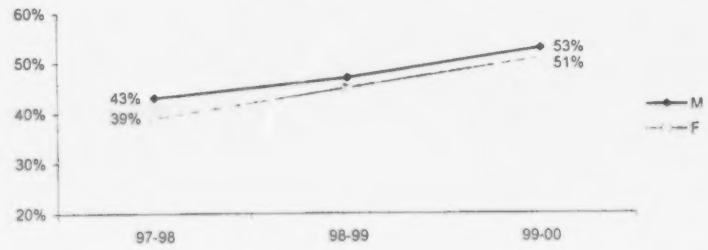
State Assessment Test Result Trends - SAT 9 Mathematics

♦ **Grade 10**

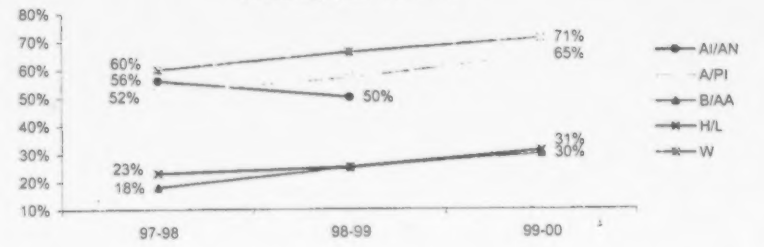
Quartiles	95-96	96-97	97-98	98-99	99-00
Top Quartile			18%	21%	25%
2nd Quartile			23%	25%	27%
3rd Quartile			27%	27%	23%
4th Quartile			33%	27%	25%
Total num of students			7,915	7,870	7,603



% Passing by Gender



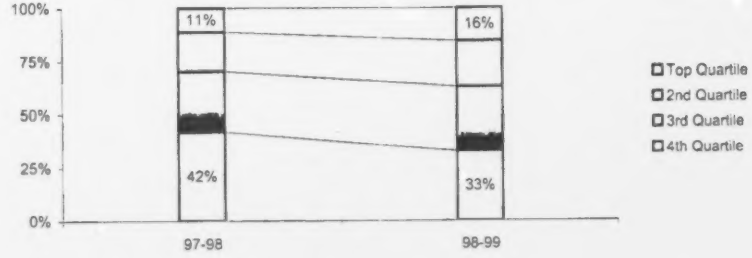
% Passing by Race/Ethnicity



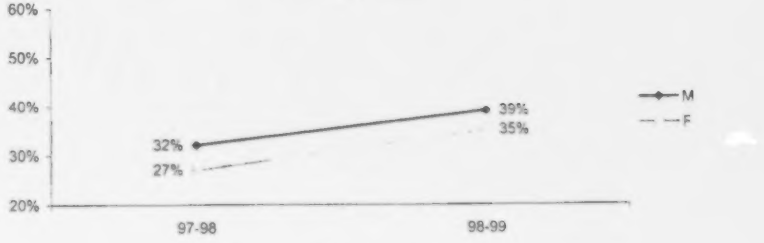
State Assessment Test Result Trends - SAT 9 Science

♦ **Grade 4**

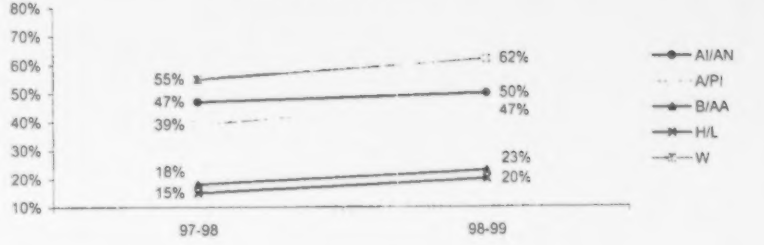
Quartiles	95-96	96-97	97-98	98-99	99-00
Top Quartile			11%	16%	.
2nd Quartile			18%	21%	.
3rd Quartile			29%	30%	.
4th Quartile			42%	33%	.
Total num of students			7,595	9,949	.



% Passing by Gender



% Passing by Race/Ethnicity



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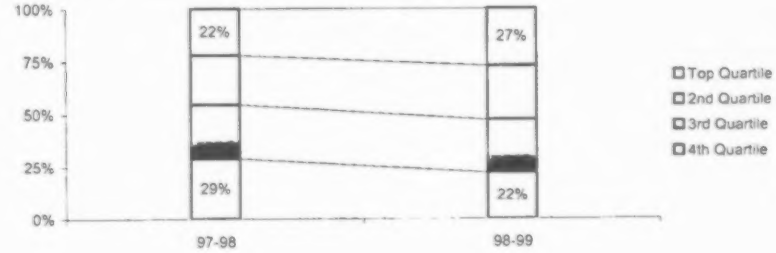
% Passing is defined as Top Quartile + 2nd Quartile

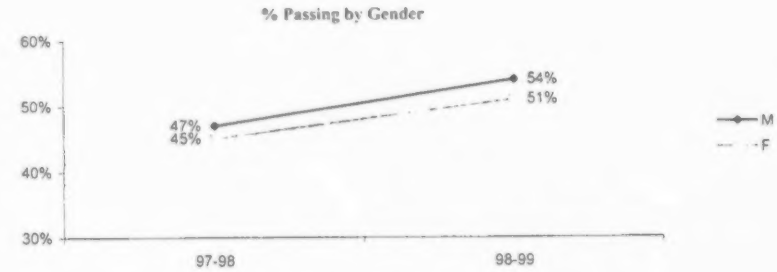
(.) Data Missing

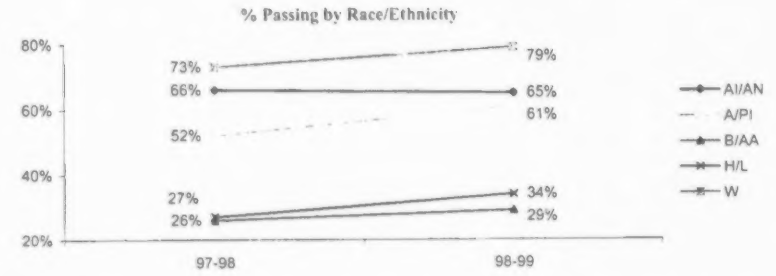
State Assessment Test Result Trends - SAT 9 Science

♦ Grade 8

Quartiles	95-96	96-97	97-98	98-99	99-00
Top Quartile			22%	27%	.
2nd Quartile			24%	26%	.
3rd Quartile			25%	25%	.
4th Quartile			29%	22%	.
Total num of students			7,943	8,419	.



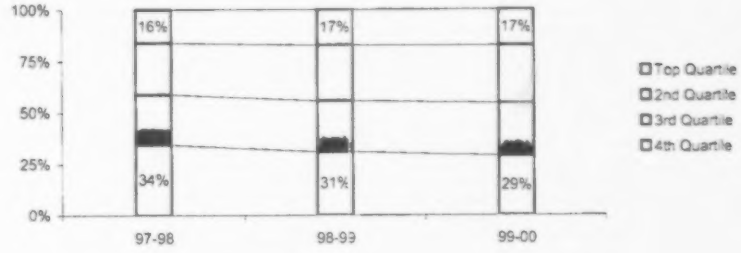


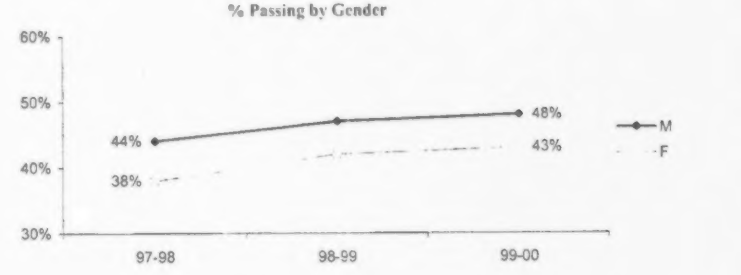


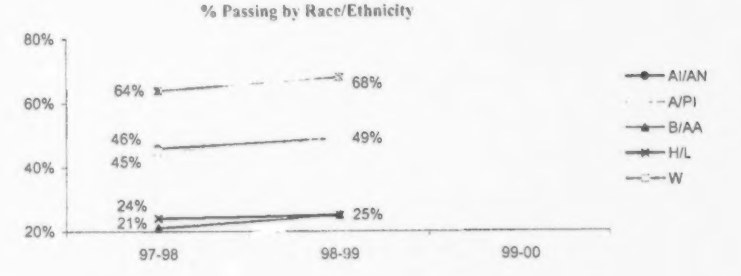
State Assessment Test Result Trends - SAT 9 Science

♦ Grade 10

Quartiles	95-96	96-97	97-98	98-99	99-00
Top Quartile			16%	17%	17%
2nd Quartile			25%	27%	28%
3rd Quartile			24%	25%	26%
4th Quartile			34%	31%	29%
Total num of students			7,890	7,768	7,607







AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing is defined as Top Quartile + 2nd Quartile (.) Data Missing

AP Mathematics Test Result Trends

♦ AP Mathematics - Total Number of Tests Taken

		96	97	98	99	00
Total num of 11th & 12th students		13,864	14,261	14,818	15,008	15,496
Tests Taken	Calc. AB	134	151	138	169	187
	Calc. BC	26	28	44	25	49
	Statistics	0	0	17	38	109
	Total	**160**	**179**	**199**	**232**	**345**
Num of tests-taken/1,000 stu.		11.5	12.6	13.4	15.5	22.3
Scoring Above 3		99	114	122	143	182
Num of Above 3/ 1,000 students		7.1	8.0	8.2	9.5	11.7

♦ AP Mathematics - Number of Tests Taken By Gender Per 1,000 Students

		96	97	98	99	00
Tests Taken per 1,000	Male	12.7	14.0	14.4	18.3	23.1
	Female	10.4	11.2	12.5	12.7	21.5

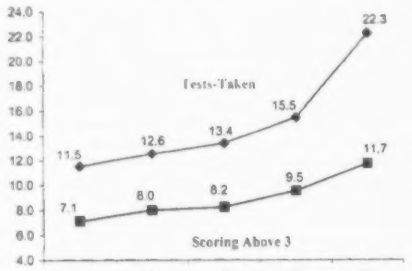
♦ AP Mathematics - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [*1]

	96	97	98	99	00
AI/AN	0.0	11.4	0.0	0.0	10.4
A/PI	24.3	26.6	27.6	27.2	35.8
B/AA	2.3	4.0	3.8	4.7	9.9
H/L	1.7	2.3	2.2	3.9	5.8
W	10.8	10.8	13.4	16.0	26.6

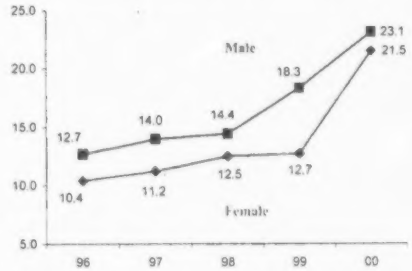
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented

♦ AP Mathematics (Calculus AB, Calculus BC, & Statistics)

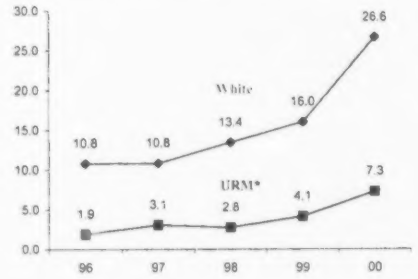
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender

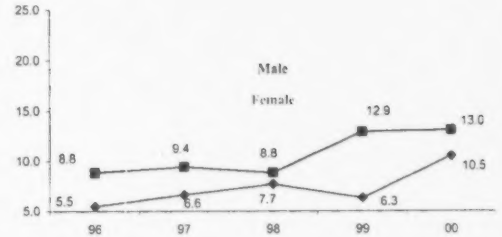


Number of tests taken per 1,000 students by Race/Ethnicity



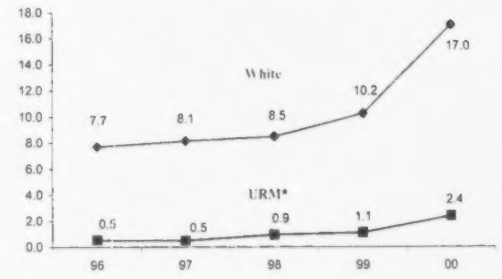
♦ AP Mathematics - Number of Students Scoring Above 3 By Gender per 1,000 Students

		96	97	98	99	00
Score Above 3 per 1,000	Male	8.8	9.4	8.8	12.9	13.0
	Female	5.5	6.6	7.7	6.3	10.5



♦ AP Mathematics - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [*1]

	96	97	98	99	00
AI/AN	0.0	11.4	0.0	0.0	10.4
A/PI	14.5	18.2	17.8	18.9	19.3
B/AA	0.5	0.0	0.0	0.4	3.0
H/L	0.6	0.5	1.5	1.5	1.8
W	7.7	8.1	8.5	10.2	17.0



*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

AP Science Test Result Trends

♦ AP Science - Total Number of Tests Taken

		96	97	98	99	00
Total num of 11th & 12th students		13,864	14,261	14,818	15,008	15,496
Tests Taken	Biology	279	212	274	292	279
	Chem.	94	125	138	164	165
	Enviro. Sci.	0	0	0	0	44
	Physics B	68	52	83	61	70
	Ph. C Mech.	168	166	154	185	172
	Ph. C Elec.	22	44	38	31	54
	Total	**631**	**599**	**687**	**733**	**784**
Num of tests-taken/1,000 stu.		45.5	42.0	46.4	48.8	50.6
Scoring Above 3		305	333	329	382	403
Num of Above 3/ 1,000 students		22.0	23.4	22.2	25.5	26.0

♦ AP Science - Number of Tests Taken By Gender Per 1,000 Students

		96	97	98	99	00
Tests Taken per 1,000	Male	52.3	52.1	52.5	51.2	56.9
	Female	38.7	32.2	40.5	46.5	44.4

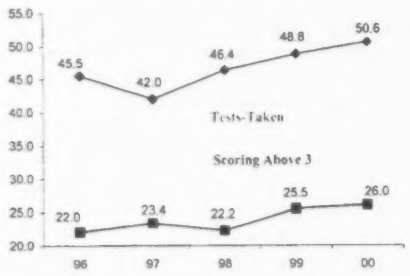
♦ AP Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [*1]

	96	97	98	99	00
AI/AN	41.2	45.5	0.0	9.5	20.8
A/PI	79.7	75.3	83.2	80.0	88.6
B/AA	116.7	110.3	110.5	125.6	143.7
H/L	9.3	7.8	9.2	12.2	11.8
W	50.3	47.0	49.3	52.1	58.5

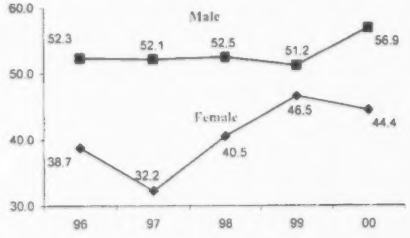
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented

♦ AP Science (Biology, Chemistry, Environ. Sci., Phy. B, Phy. C Mech., & Phy. C Elec.

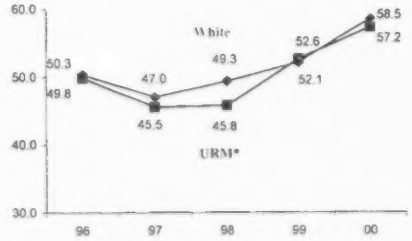
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender

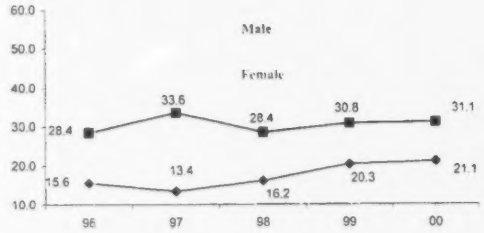


Number of tests taken per 1,000 students by Race/Ethnicity



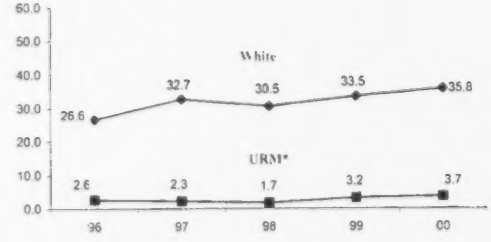
♦ AP Science - Number of Students Scoring Above 3 By Gender Per 1,000 Students

		96	97	98	99	00
Score Above 3 per 1,000	Male	28.4	33.6	28.4	30.8	31.1
	Female	15.6	13.4	16.2	20.3	21.1



♦ AP Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [*1]

	96	97	98	99	00
AI/AN	0.0	22.7	0.0	0.0	0.0
A/PI	39.7	35.4	36.7	41.0	42.9
B/AA	2.3	0.9	0.0	2.2	5.2
H/L	2.8	2.6	2.7	3.9	3.0
W	26.6	32.7	30.5	33.5	35.8



*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

AP Computer Science Test Result Trends

♦ AP Computer Science - Total Number of Tests Taken

		96	97	98	99	00
Total num of 11th & 12th students		13,864	14,261	14,818	15,008	15,496
Tests Taken	Comp. Sci A	13	35	5	58	91
	Comp. Sci AB	15	11	17	31	21
	Total	**28**	**46**	**22**	**89**	**112**
Num of tests-taken/1,000 stu		2.0	3.2	1.5	5.9	7.2
Scoring Above 3		9	16	8	49	52
Num of Above 3/ 1,000 students		0.6	1.1	0.5	3.3	3.4

♦ AP Computer Science - Number of Tests Taken By Gender

Per 1,000 Students

		96	97	98	99	00
Tests Taken per 1,000	Male	3.6	6.1	2.3	9.9	12.1
	Female	0.4	0.4	0.7	2.1	2.4

♦ AP Computer Science - Number of Tests Taken By Race/Ethnicity

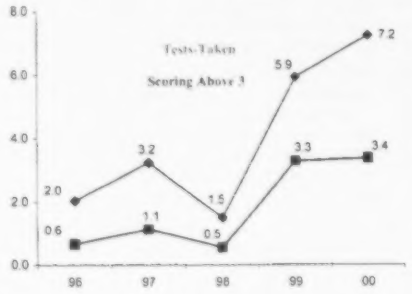
Per 1,000 Students [*1]

	96	97	98	99	00
AI/AN	0.0	0.0	0.0	9.5	0.0
A/PI	3.4	3.6	2.6	5.4	12.1
B/AA	0.0	0.9	1.3	2.2	3.0
H/L	0.0	1.3	0.2	2.7	2.8
W	2.9	4.2	1.4	9.0	7.8

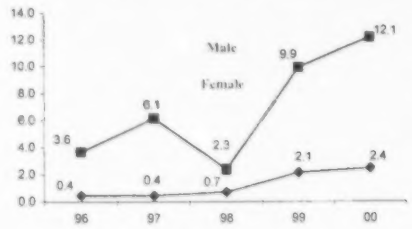
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented

♦ AP Computer Science (Computer Science A & AB)

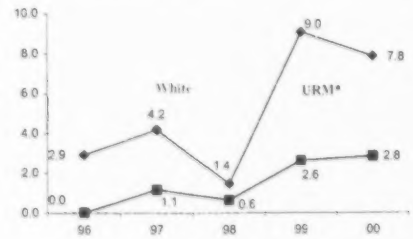
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender

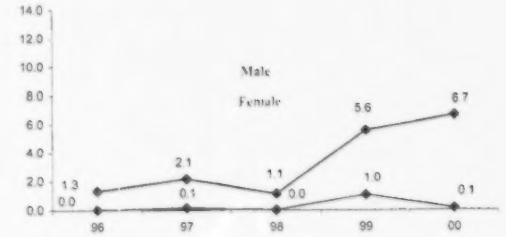


Number of tests taken per 1,000 students by Race/Ethnicity



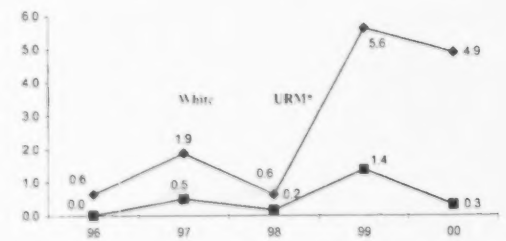
♦ AP Computer Science - Number of Students Scoring Above 3 By Gender per 1,000 Students

		96	97	98	99	00
Score Above 3 per 1,000	Male	1.3	2.1	1.1	5.6	6.7
	Female	0.0	0.1	0.0	1.0	0.1



♦ AP Computer Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [*1]

	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0
A/PI	1.2	0.9	0.6	1.4	5.8
B/AA	0.0	0.4	0.4	1.7	0.0
H/L	0.0	0.5	0.0	1.2	0.5
W	0.6	1.9	0.6	5.6	4.9

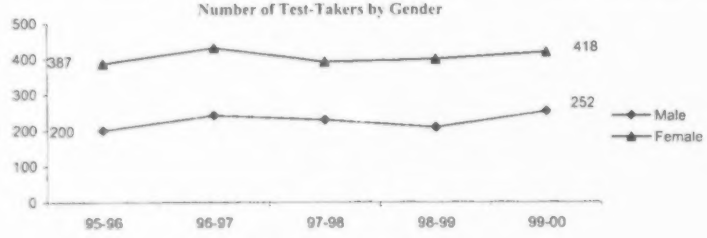


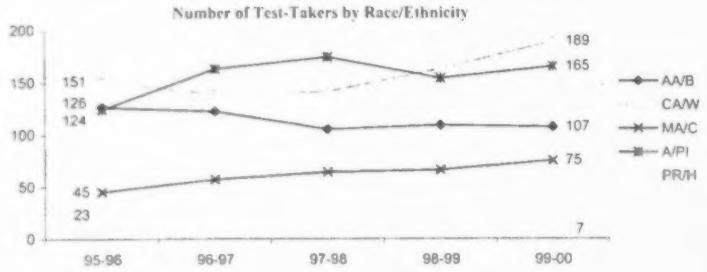
*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

ACT Test-Takers

• **Number of Test-Takers**

		95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		5,971	6,233	6,282	6,544	6,800
Test-Takers		587	672	620	607	672
Num of Test-Takers/1,000 Stu.		98	108	99	93	99
Gender	Male	200	242	229	208	252
	Female	387	430	391	399	418
Race/Ethnicity	AA/B	126	122	105	109	107
	AI/AN *1	5	4	5	2	3
	CA/W	151	139	141	163	189
	MA/C	45	57	64	66	75
	A/PI	124	163	174	154	165
	PR/H	23	32	13	7	7

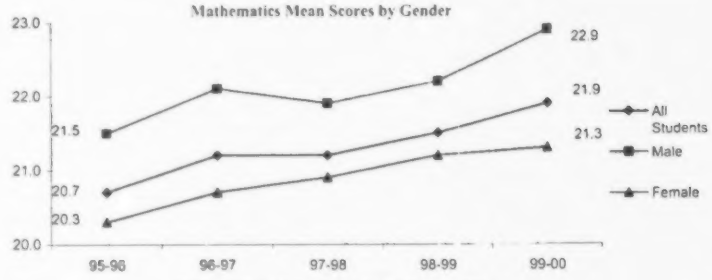


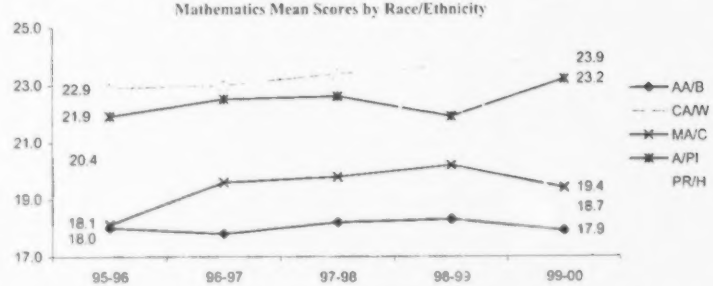


ACT Mathematics Scores

• **Mathematics - Mean Score Trends**

		95-96	96-97	97-98	98-99	99-00
All Students		20.7	21.2	21.2	21.5	21.9
Gender	Male	21.5	22.1	21.9	22.2	22.9
	Female	20.3	20.7	20.9	21.2	21.3
Race/Ethnicity	AA/B	18.0	17.8	18.2	18.3	17.9
	AI/AN *2	18.8	-	18.2	-	-
	CA/W	22.9	23.0	23.4	23.7	23.9
	MA/C	18.1	19.6	19.8	20.2	19.4
	A/PI	21.9	22.5	22.6	21.9	23.2
	PR/H	20.4	20.6	20.4	23.7	18.7





AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.

*1 Number of Test-Takers less than 5 not presented on graph

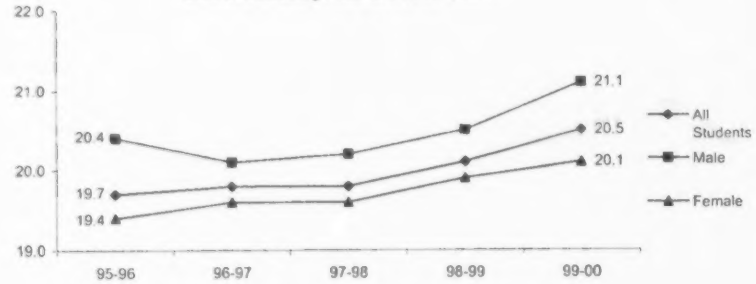
*2 Mean scores not present for sample size less than 5

ACT Science Reasoning Scores

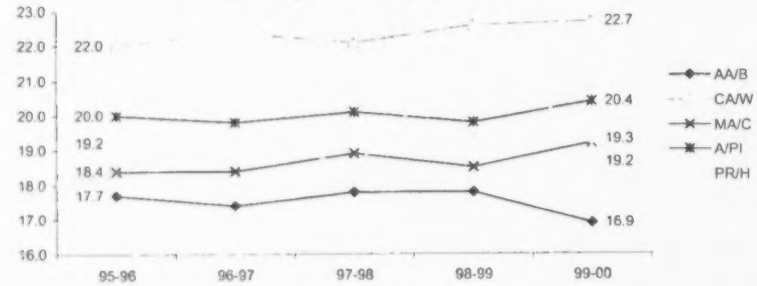
♦ **Science Reasoning - Mean Score Trends**

		95-96	96-97	97-98	98-99	99-00
All Students		19.7	19.8	19.8	20.1	20.5
Gender	Male	20.4	20.1	20.2	20.5	21.1
	Female	19.4	19.6	19.6	19.9	20.1
Race/Ethnicity	AA/B	17.7	17.4	17.8	17.8	16.9
	AI/AN [*1]	18.0	-	16.8	-	-
	CA/W	22.0	22.4	22.1	22.6	22.7
	MA/C	18.4	18.4	18.9	18.5	19.2
	A/PI	20.0	19.8	20.1	19.8	20.4
	PR/H	19.2	19.5	18.5	21.9	19.3

Science Reasoning Mean Scores by Gender



Science Reasoning Mean Scores by Race/Ethnicity



AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.

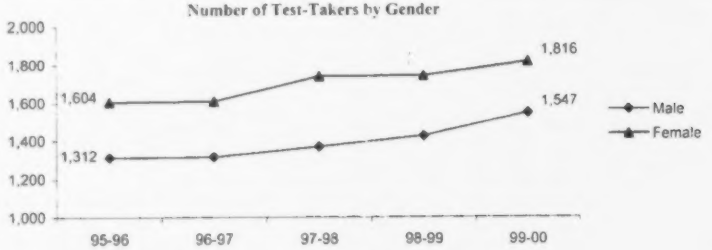
[*1] Mean scores not presented for sample size less than 5

SAT Test-Takers

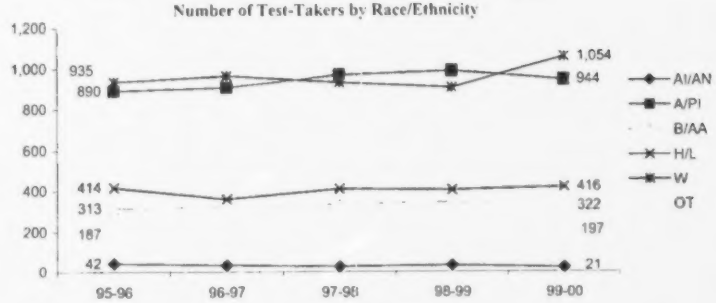
♦ **Number of Test-Takers**

		95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		5,971	6,233	6,282	6,544	6,800
Test-Takers		2,916	2,924	3,106	3,167	3,363
Num of Test-Takers/1,000 Stu.		488	469	494	484	495
Gender	Male	1,312	1,316	1,367	1,425	1,547
	Female	1,604	1,608	1,739	1,742	1,816
Race/Ethnicity	AI/AN	42	32	25	31	21
	A/PI	890	906	968	986	944
	B/AA	313	322	331	342	322
	H/L	414	358	406	401	416
	W	935	964	931	906	1,054
	OT	187	154	204	203	197

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

SAT Mathematics Scores

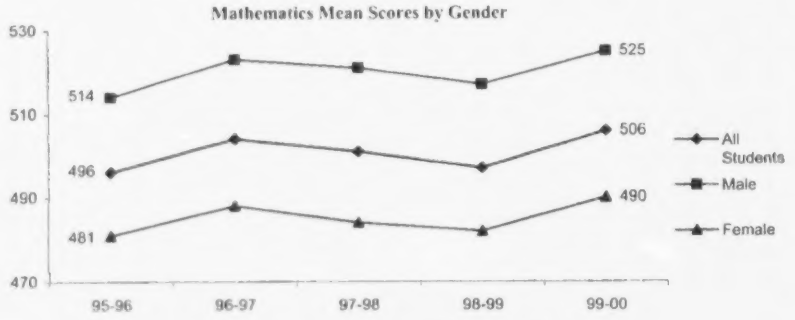
• Mathematics - Mean Score Trends

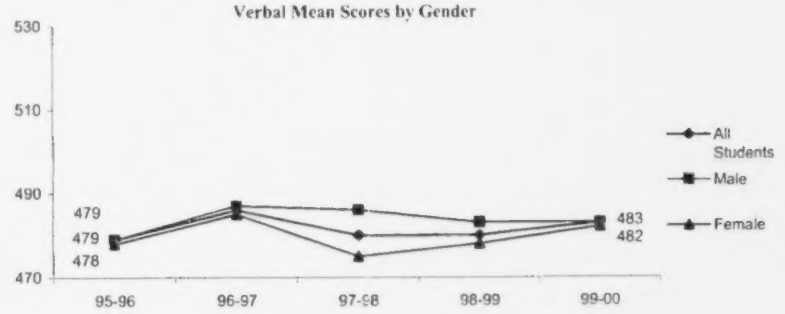
		95-96	96-97	97-98	98-99	99-00
All Students		496	504	501	497	506
Gender	Male	514	523	521	517	525
	Female	481	488	484	482	490
Race/Ethnicity	AI/AN	499	498	490	467	482
	A/PI	495	507	501	496	507
	B/AA	429	431	430	431	428
	H/L	450	462	461	468	472
	W	542	545	548	541	550
	OT	499	512	498	492	507

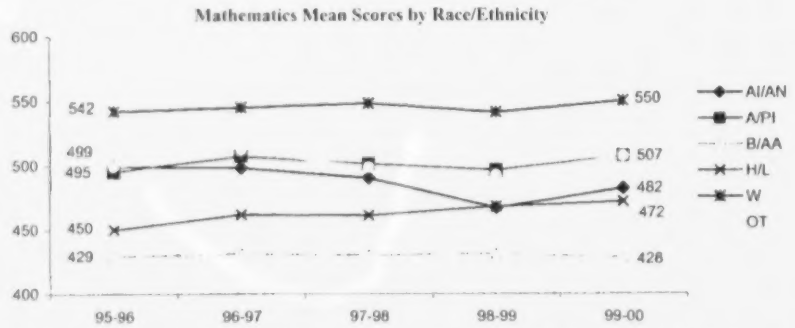
SAT Verbal Scores

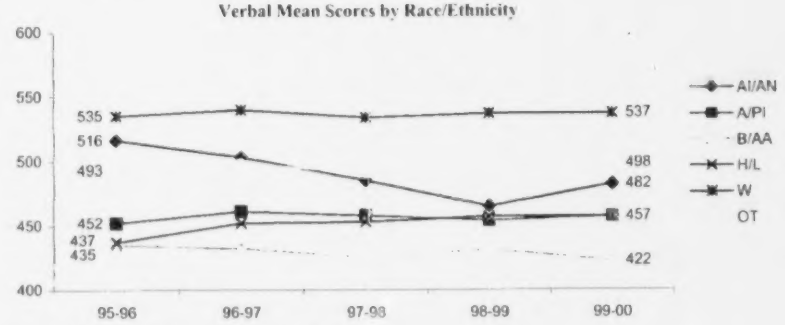
• Verbal - Mean Score Trends

		95-96	96-97	97-98	98-99	99-00
All Students		479	486	480	480	483
Gender	Male	479	487	486	483	483
	Female	478	485	475	478	482
Race/Ethnicity	AI/AN	516	503	485	465	482
	A/PI	452	461	458	454	457
	B/AA	435	432	425	431	422
	H/L	437	452	453	457	457
	W	535	540	534	537	537
	OT	493	498	491	499	498









AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

San Diego USI

Cohort/Scale-Up Approach

	96-97	97-98	98-99	99-00
Number of District Schools*:	*178*	*178*	178	188
USI Schools**:	36**	117**	178	188
% Schools:	20%	66%	100%	100%

*Core Data Elements 2000-2001; ** SDUSI PER, 12/9/98

Italics: Data Imputed

Primary Decision Making Body

Standards Curriculum	District
Curriculum/TextBook Adop	State
Student Assessment	District
Professional Development	District
Resources	District
Teacher Hiring	District
Teacher Contracts	District
Certification & Re-certifica	State
Graduation Requirements	District
School-Based Manageme	Yes

Policies Promoting Equal Access by All Students in High Quality Education

Student Tracking:

Criteria for Entry into High Level Mathematics and Science Courses:
- All students take the same core of college preparatory mathematics and science courses

Availability of High Level Courses:
- Alternate/remedial courses eliminated

Special Education and Bilingual Students:
- Fewer bilingual and sheltered courses

Policies Impacting the Enrollment of Students in Challenging Math and Science Courses

Attendance:
- None

Guidance:
- 8th and 10th grade review with student and parent

Student Support Systems:
- Before and after school mathematics tutoring
- Science clubs at some schools
- After school mathematics (elementary) expanded

Policies Relevant to Curriculum

Framework:
- Course guide and teacher guides based on standards and curriculum

Curriculum:

Curricula Materials:
- Anytime Math
- Quest 2000
- Interactive Mathematics
- Full Option Science System (FOSS)
- Insights
- Science Interactions
- Science 2000
- Science Plus

New Courses Added as a Result of USI:

Instructional Time:
- Mathematics: K: 30 minutes per day
  G1-2: 40 minutes per day
  G3-6: 50 minutes per day
  G7-8: 4 semesters including pre-algebra and algebra content
  G9-12: 6 semesters including Algebra
- Science: K: 100 minutes per week
  G1-2: 85 minutes per week
  G8: 1 semester integrated science
  G9-12: 4 semesters including physical and life science

Standards-based Curriculum and Instruction

Standards Adopted:
- San Diego City School's Content and Performance Standards

Primary Instructional Strategies:
- Hands-on, inquiry based instruction
- Manipulative
- Technology

% of Students Experiencing Standards-based Mathematics Curriculums:	E: 60% M: 80% H: 90%
% of Students Experiencing Standards-based Science Curriculums:	E: 50% M: 80% H: 90%

Policies Relevant to Teacher Qualifications

Certification Requirement & Hiring Practices:
- State determined
- Determined by district administration

Professional Advancement & Leadership Training:
- Determined by district administration
- Subject area leadership

Contract Requirements:
- Determined by district administration

E: Elementary School M: Middle School H: High School

San Diego USI

Professional Development Policies and Practices

Time Required or Supported:	• Monthly professional development for all mathematics and science teachers
Financial Resources Provided:	
Alignment to Student Standards:	
Measurement of Impact:	
Type and Amount Received by Average Math/Science Teacher:	• 18 hours
Evaluation Instruments:	• Surveys: teacher leaders, principals, professional development staff and parents • Teacher interviews • G12 student focus groups • Classroom observation by USI staff • Student performance on tests
Professional Development Alignment to Content Standards Measures:	
Teacher's Instructional Practices Evaluation:	• Classroom observation by USI staff • Student performance on tests • Staff developers work with teachers as peer coaches to improve classroom practice
Impact on Student Achievement:	• G12 student focus groups • Classroom observation by USI staff • Student performance on tests

Policies Relevant to Standards-based Assessments

Extent to Which Assessments are Aligned to District Standards and Curriculums:	• Not aligned with state assessments • No district assessments
Methods stakeholders are informed of goals, objectives and accomplishments of assessment program:	• School newsletters • Student grades • District bulletin and reports • Brochures • Websites

USI Leadership, Governance, and Management

Superintendent:	• Change in Superintendent • Grant defunded • Transitional funds allocated
USI Office:	• Reduction of resource teachers from 14 to 3
Community Key Personnel:	
Teacher Leaders:	• Key Teachers

Partnerships

Other Key Initiatives:	• Eisenhower Program • Title I
Community Stakeholders:	• San Diego Science alliance • Balboa Park Educators' Association • San Diego Zoo Reuben H. Fleet Science Center • Museum of Natural History • Stephen Birch Aquarium
Higher Education:	• San Diego State University • University of California at San Diego
Business and Industry:	• Kelco • Hybritech • General Atomics • Qualcomm • Mission Valley Shopping Center • Texas Instruments
Other Partnerships:	• Naval Research Center • Scripps Research Institute

Policy Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	•3 years of Mathematics and 2 years of Science required for graduation. •Not specified as to course and uneven in terms of students taking quality courses •Most lower level courses eliminated •Remedial classes accepted for graduation
1996-97	•K- 100 minutes/week of science •G1-3- 85 minutes/week of science •K- 30 minutes/day of math •G1-2- 40 minutes/day of mathematics •G3-6- 50 minutes/day of mathematics
1997-98	•2 years of algebra and 1 year of geometry required for graduation •Biology and either chemistry or physics required for graduation
1998-99	•G7 science mandatory •Science a full year course for G7

Curriculum and Instruction Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	•No content and performance standards defined •Traditional instruction •No significant emphasis on inquiry-based learning
1996-97	•G8-12 semester integrated science course •G9-12- 4 semesters science including physical and life science •G7-8- 4 semesters of mathematics including pre algebra & algebra content •G9-12- 6 semesters of mathematics including Algebra
1997-98	•San Diego City School's content and performance standards adopted
1998-99	•No changes reported

Professional Development Policy and Program Changes to Support Teachers During USI Implementation

School Year	Policy Implemented
Before USI	•Before USI professional development was linked solely to book adoptions, university summer programs and special grants for a limited number of teachers
1996-97	•Site based professional developers called "Key Teachers" selected at USI schools •Professional development systemic in USI schools at school site and "Key Teachers" developed as leaders •Monthly professional development for all teachers of mathematics and science •Monthly professional development for teacher leader development •Summer institutes for teacher leaders
1997-98	•Professional development for administrators, principals, and counselors
1998-99	•No changes reported

Standards-based Assessment System Changes During USI Implementation

School Year	Policy Implemented
Before USI	•Assessment were not standards based because standards (state and district) were not developed at this time •ASAT is the standard test taken •Golden State Exam (GSE) in mathematics and science given to selected students
1996-97	•No changes reported
1997-98	•District changed from ASAT to SAT-9 •All students G2-11 tested in mathematics •USI schools also tested in science G2-11 •USI secondary schools tested on Golden State Exam in all math and science courses tested •Science performance-based assessment in G5 and 8 •Assessments to address both mathematics and science in high stakes exams and end of course exams •Golden State Exam mandatory for all USI schools in Biology, Chemistry, Algebra and Geometry •SAT-9 Mathematics G2-11 •SAT-9 Science G2-11 all USI schools
1998-99	•Golden State Exam mandatory for all schools in Biology, Chemistry, Algebra and Geometry and Physics (This was the first year that Physics was available) •SAT-9 Mathematics G2-11 •SAT-9 Science G4-11 all schools

School District Progress Report

March 2002

St. Louis

Urban School Key Indicators of Science and Mathematics Education: 2001

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St. Louis USI

Project Information

USI Project Title: St. Louis USI
Cohort: 95 (Sept. 96 - Aug. 00)
USI Web Site:

♦ PI, CO-PI and PD

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Mr. Mulugheta Teferi
Co-PI/Executive Director
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stephenmajesky@yahoo.com

♦ Mailing Address

St. Louis Public Schools
801 N. 11th St.
St. Louis, MO 63101

♦ USI Schools Math & Sci. Teachers and Students

SY 99-00	Schools	Teachers	Students
K-G5 (Elementary)	68	1,300	19,708
G6-8 (Middle)	22	150	7,021
G9-12 (High)	12	150	10,197
Total	102	1,600	36,926

Project Summary

The St. Louis Urban Systemic Initiative (SLUSI), a five-year, large-scale comprehensive strategy to transform current thought and educational practice to bring all of the District's students to educational excellence in mathematics, science, and technology (MST), is composed of four major interventions to improve student achievement:

(1) Curriculum/instruction and assessment, which incorporate cutting-edge MST content with exemplary instructional and assessment strategies that prepare students for effective functioning in the 21st century;
(2) Professional development of a massive order, which improves student learning by preparing staff as MST content masters who engage in authentic assessment as reflective practitioners while modeling high expectations for all students;
(3) Student support systems, which serve as learner safety nets to assure student mastery of critical MST elements in a timely fashion; and
(4) Structural, organizational process reforms of policies and practices, which encourage student persistence and support student achievement and professional development.

With assistance from the St. Louis Collaborative, the Mayor, and the larger community, the District will use the NSF grant to leverage larger support for the ambitious vision of its future, engaging prominent representatives of institutions of high education, business and industry, K-16 educators, labor unions, parents, government agencies, and other community stakeholders.

Project Goals

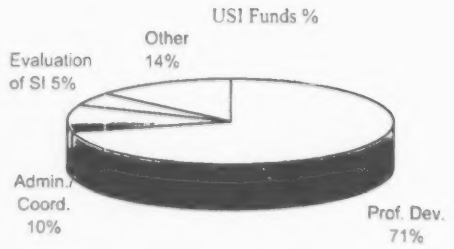
Selected School Indicators (District Average)

	95-96	99-00	Change
%Special Ed.	15.1%	15.6%	+0.5 PP
%LEP	2.5%	3.5%	+1.0 PP
%FRL	77.1%	82.7%	+5.6 PP
%Daily Ave. Atten.	89.4%	89.2%	-0.2 PP
%Average Retained	10.2%		
%Drop-Out	17.4%		
%Mobility	20.9%		
Per Pupil Cost ($)	$8,382	$9,176	+9.5%
Num of Students Per Computer			
% Classrooms Internet Access			
Average Class Size	19	19	0.0%

(.) Missing Data PP: Percentage Points

District and USI Fund Utilization (Sy 1999-00)

	District	USI
Prof. Dev.	60%	71%
Admin./Coord.	8%	10%
Evaluation of SI	6%	5%
Other	26%	14%
Total	100%	100%



St. Louis USI

Student Demographics (SY 1999-00)

District Total:	39,047	
USI Schools:	39,047	100%

♦ Race/Ethnicity

	95-96	99-00	%	% Change
Ame. Ind./Ala. Nat.	14	41	0.1%	+192.9%
Asian/P. Islander	660	603	1.5%	-8.6%
Black	32,372	31,003	79.4%	-4.2%
Hispanic	259	360	0.9%	+39.0%
White	7,559	7,040	18.0%	-6.9%
Other	0	0	0.0%	-
Total	40,864	39,047		-4.4%
URM Total	32,645	31,404	80.4%	-3.8%

URM: Underrepresented Minority students.

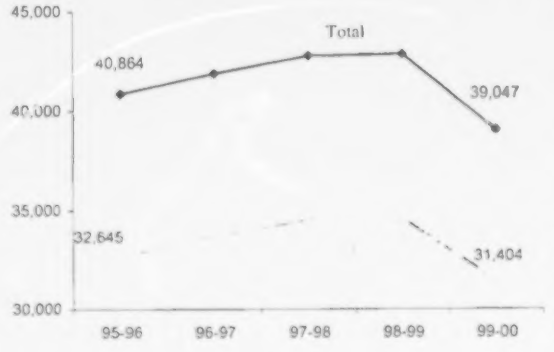
♦ Gender

Male	20,733	20,016	51.3%	-3.5%
Female	20,131	19,031	48.7%	-5.5%

♦ Grade

K-G5	22,501	19,708	50.5%	-12.4%
G6-8	7,585	7,021	18.0%	-7.4%
G9-12	8,302	10,197	26.1%	+22.8%
Ungraded	2,476	2,121	5.4%	-14.3%

♦ District-Wide Student Demographic Trends



12th Grade Graduates

	95-96	99-00	Change
Total 12th Grade	1,114	1,393	+25%
Earned a Diploma	903	1,388	+54%
% Earned Diploma	81%	99.6%	+19 PP

% Earned Diploma

College Entrance

	95-96	97-98	Change
2 Yr College	151	218	+44%
4 Yr College	213	256	+20%
Other Post-Secon.	36	31	-14%
Total C. E.	400	505	+26%
% C. E./Earned Dip.	44%	42.0%	-2 PP

% College Entrance

High School Graduation Requirements SY 99-00

- ♦ Mathematics
  - College Bound - 4 years
  - Minimum - 4 years
  - Effective 9/99
- ♦ Science
  - College Bound - 4 years
  - Minimum - 4 years
  - Effective 9/99

PP: Percentage Point

Math and Science Teachers & Certification

♦ Mathematics (G6-12)

		97-98	99-00	Change
G6-8	Teachers	75	75	0.0%
	Certified			
	% Cert.			
G9-12	Teachers	80	75	-6.3%
	Certified			
	% Cert.			
Total	Teachers	155	150	-3.2%
	Certified			
	% Cert.			

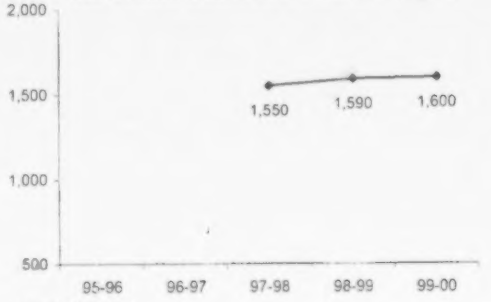
♦ Science (G6-12)

		97-98	99-00	Change
G6-8	Teachers	80	75	-6.3%
	Certified			
	% Cert.			
G9-12	Teachers	85	75	-11.8%
	Certified			
	% Cert.			
Total	Teachers	165	150	-9.1%
	Certified			
	% Cert.			

♦ Math and Science (K-G5)

		97-98	99-00	Change
K-G5	Teachers	1,230	1,300	+5.7%

Total Number of Math and Sci. Teachers (K-G12)

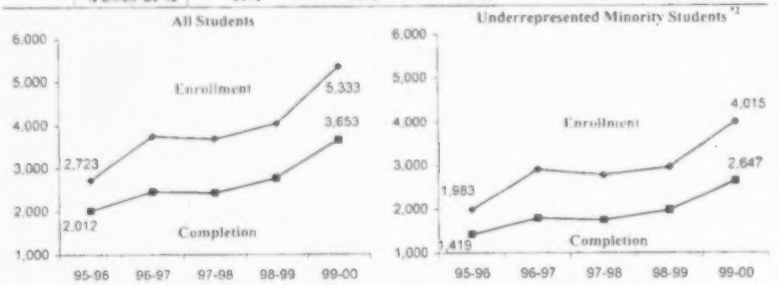


(-) Data Missing

Mathematics and Science Enrollment &Completion Trends/ All vs. URM

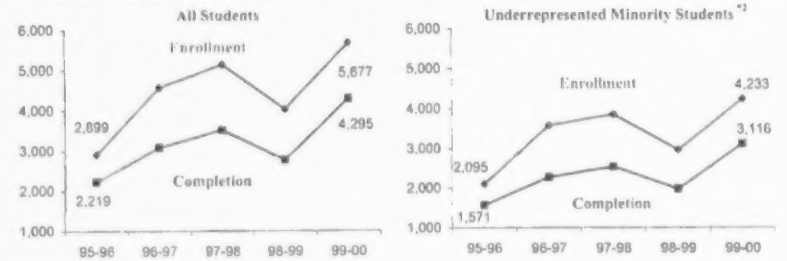
G 9-12 Mathematics Gate-Keeping Courses (Algebra II, Geo., and Calculus)

		95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		8,302	8,072	8,234	8,296	10,197
All Students	Enrollment	2,723	3,745	3,682	4,035	5,333
	Completion *1	2,012	2,453	2,423	2,771	3,653
	% Enroll/ G9-12	33%	46%	45%	49%	52%
URM *2	Enrollment	1,983	2,896	2,776	2,960	4,015
	Completion *1	1,419	1,785	1,748	1,975	2,647
	% Enroll/ G9-12	30%	46%	44%	47%	52%



G 9-12 Science Gate-Keeping Courses (Biology 1, Chem. 1, and Physics 1)

		95-96	96-97	97-98	98-99	99-00
Total G 9-12 Population		8,302	8,072	8,234	8,296	10,197
All Students	Enrollment	2,899	4,577	5,136	4,035	5,677
	Completion *1	2,219	3,084	3,520	2,771	4,295
	% Enroll/ G9-12	35%	57%	62%	49%	56%
URM *2	Enrollment	2,095	3,574	3,852	2,960	4,233
	Completion *1	1,571	2,274	2,541	1,975	3,116
	% Enroll/ G9-12	32%	57%	61%	47%	55%



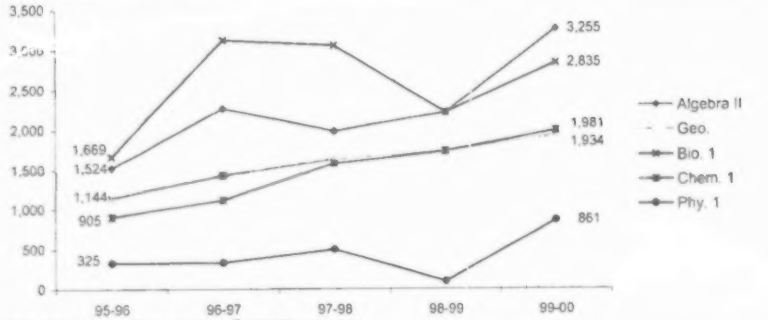
*1 Successful completion: grade 'D' or above.

*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Mathematics and Science Enrollment & Completion Trends By Subject

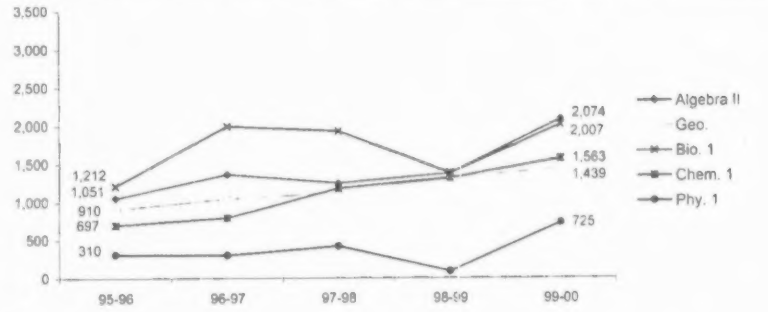
G 9-12 Course Enrollment (All Students)

	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
95-96	1,524	1,144	55	2,723	1,569	905	325	2,899
96-97	2,265	1,433	47	3,745	3,126	1,120	331	4,577
97-98	1,979	1,639	64	3,682	3,057	1,583	496	5,136
98-99	2,212	1,731	92	4,035	2,212	1,731	92	4,035
99-00	3,255	1,934	144	5,333	2,835	1,981	861	5,677



G 9-12 Course Completion *1 (All Students)

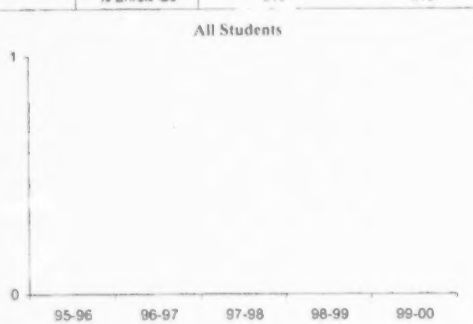
	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
95-96	1,051	910	51	2,012	1,212	697	310	2,219
96-97	1,363	1,043	47	2,453	1,990	793	301	3,084
97-98	1,246	1,122	55	2,423	1,925	1,178	417	3,520
98-99	1,376	1,312	83	2,771	1,376	1,312	83	2,771
99-00	2,074	1,439	140	3,653	2,007	1,563	725	4,295

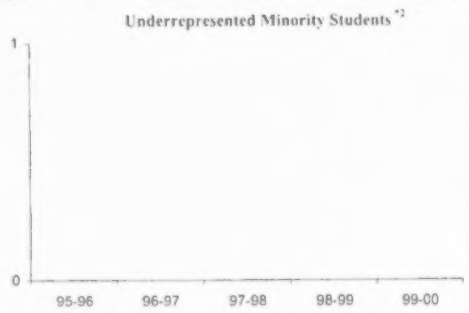


*3 Calculus not represented on graph.

Algebra I or Above in 8th Grade Enrollment & Completion Trends/ All vs. URM

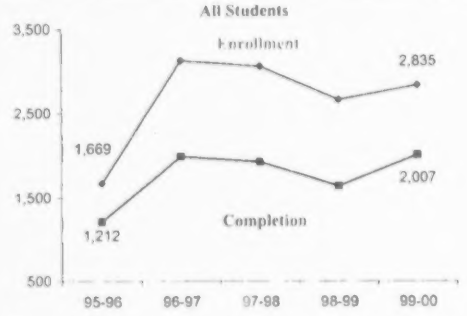
		95-96	96-97	97-98	98-99	99-00
Total G 8 Population		2,441	2,482	2,420	2,463	2,283
All Students	Enrollment	0	0	0	0	0
	Completion *1	0	0	0	0	0
	% Enroll/ G8	0%	0%	0%	0%	0%
URM *2	Enrollment	0	0	0	0	0
	Completion *1	0	0	0	0	0
	% Enroll/ G8	0%	0%	0%	0%	0%

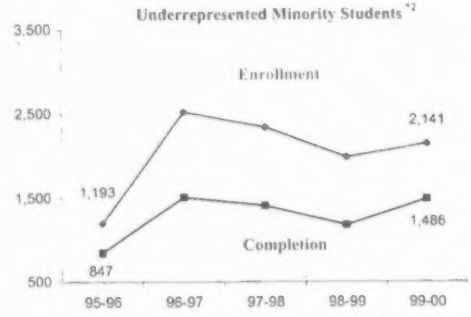




Biology Enrollment & Completion Trends/ All vs. URM

		95-96	96-97	97-98	98-99	99-00
All Students	Enrollment	1,669	3,126	3,057	2,663	2,835
	Completion *1	1,212	1,990	1,925	1,638	2,007
URM *2	Enrollment	1,193	2,525	2,337	1,983	2,141
	Completion *1	847	1,509	1,408	1,172	1,486





*1 Successful completion: grade 'D' or above

*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

(.) Data Missing

Professional Development Participation of Teachers Teaching Mathematics and/or Science

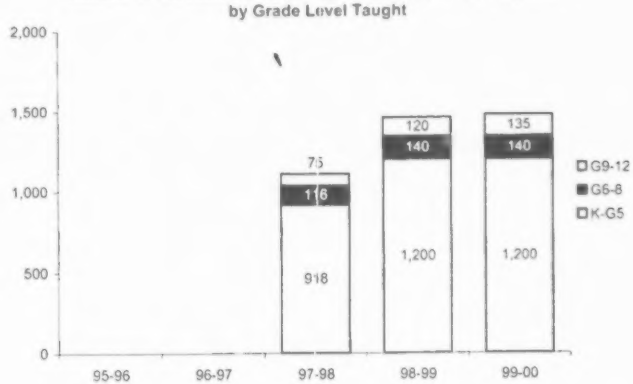
Total Number Teachers by Subject (G6-12)

	95-96	96-97	97-98	98-99	99-00
Mathematics	0	.	155	145	150
Science	0	.	165	145	150

Total Number of Teachers Participating in PD by Grade Level

Teachers	95-96	96-97	97-98	98-99	99-00
Total K-G5	0	.	1,230	1,300	1,300
# K-G5 Participated	0	.	918	1,200	1,200
% K-G5 Participated	0%	.	75%	92%	92%
Total G6-8	0	.	155	150	150
# G6-8 Participated	0	.	116	140	140
% G6-8 Participated	0%	.	75%	93%	93%
Total G9-12	0	.	165	140	150
# G9-12 Participated	0	.	75	120	135
% G9-12 Participated	0%	.	45%	86%	90%

Number of Teachers Participating in Professional Development by Grade Level Taught



Number of Teachers by Duration of Professional Development

	95-96	96-97	97-98	98-99	99-00
1-59 Hours	0	.	1,069	1,229	236
60-119 Hours	0	.	36	228	1,235
120-200 Hours	0	.	4	3	4
More than 200 Hours	0	.	0	0	0

District Assessment Test Administered

♦ Mathematics

	95-96	96-97	97-98	98-99	99-00
Test Name	NPSS	NPSS	NPSS	NPSS	NPSS
Scoring	PC	PC	PC	PC	PC
Grade	G9-10	G9-11	G9-11	G9-12	G6-12
Type	NRT	NRT	NRT	NRT	NRT

♦ Science

	95-96	96-97	97-98	98-99	99-00
Test Name	SAT8	SAT8	SAT9	SAT9	SAT9
Scoring	PC	PC	PC	PC	PC
Grade	K-12	K-12	1,5-6	1,5-6	1,5-6
Type	NRT	NRT	NRT	NRT	NRT

State Assessment Test Administered

♦ Mathematics

	95-96	96-97	97-98	98-99	99-00
Test Name	MMAT	MAP	MAP	MAP	MAP
Scoring	.	PL	PL	PL	PL
Grade	.	4,8,10	4,8,10	4,8,10	4,8,10
Type	.	PL	PL	PL	PL

♦ Science

	95-96	96-97	97-98	98-99	99-00
Test Name	MMAT	MAP	MAP	MAP	MAP
Scoring	.	PL	PL	PL	PL
Grade	.	3,7,10	3,7,10	3,7,10	3,7,10
Type	.	PL	PL	PL	PL

* MAP: Missoun Assessment Program * SAT 9 and SAT 8: Stanford Achievement Test, 9th & 8th Editions

* MMAT: Missouri Mastery and Achievement Test * NPSS: National Proficiency Survey Series

PC: Percentile SN: Stanine PL: Performance Level

PF: Pass/Fail SS: Scaled Score OT: Other

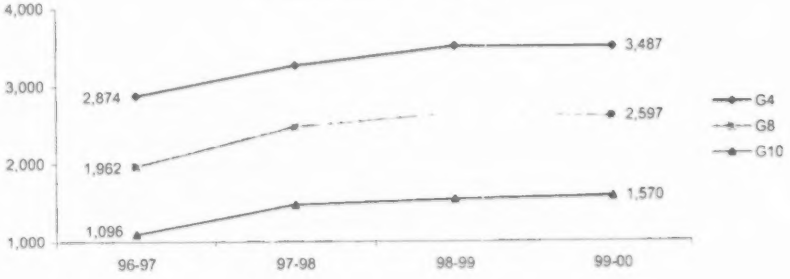
NRT: Norm-Referenced Test CRT: Criterion-Referenced Test (.) Data Missing

State Assessment Test-Taker Trends Missouri Assessment Program (MAP)

♦ Mathematics

# of Test Takers	95-96	96-97	97-98	98-99	99-00
Grade 4		2,874	3,266	3,497	3,487
Grade 8		1,962	2,480	2,640	2,597
Grade 10		1,096	1,472	1,533	1,570

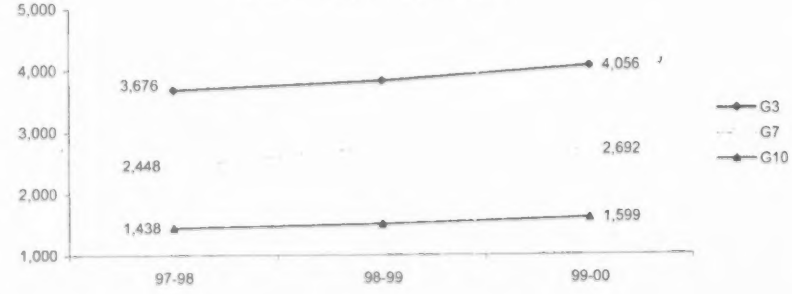
Total number of students taking test



♦ Science

# of Test Takers	95-96	96-97	97-98	98-99	99-00
Grade 3		.	3,676	3,823	4,056
Grade 7		.	2,448	2,763	2,692
Grade 10		.	1,438	1,503	1,599

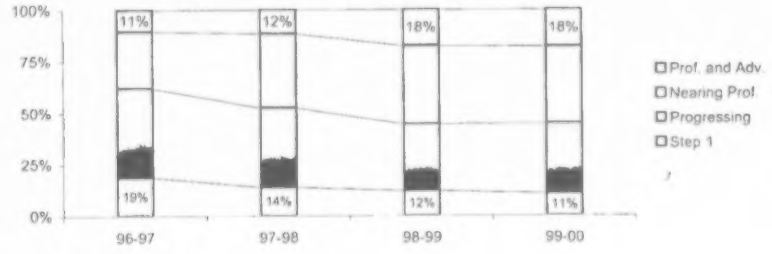
Total number of students taking test



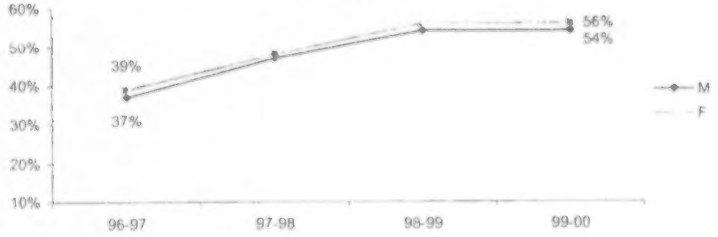
State Assessment Test Result Trends MAP - Mathematics

♦ Grade 4

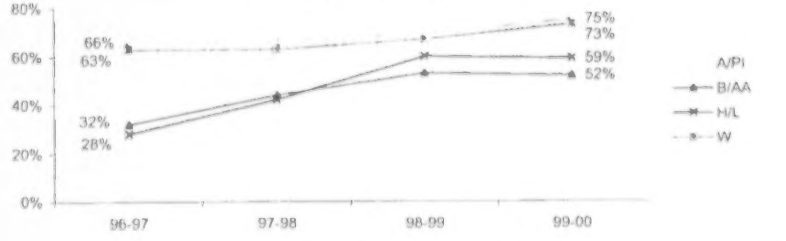
Proficiency	95-96	96-97	97-98	98-99	99-00
Prof. and Adv.		11%	12%	18%	18%
Nearing Prof.		27%	36%	38%	37%
Progressing		44%	39%	33%	34%
Step 1		19%	14%	12%	11%
Total num of students		2,874	3,266	3,497	3,487



% Passing by Gender



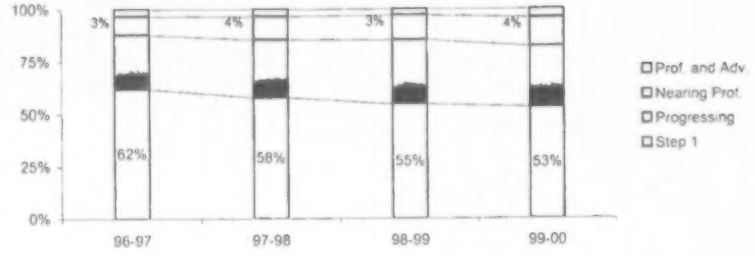
% Passing by Race/Ethnicity *1



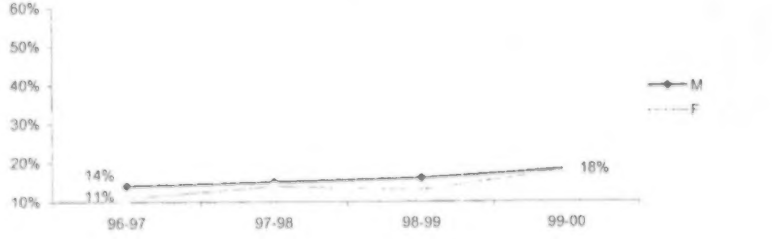
State Assessment Test Result Trends MAP - Mathematics

♦ Grade 8

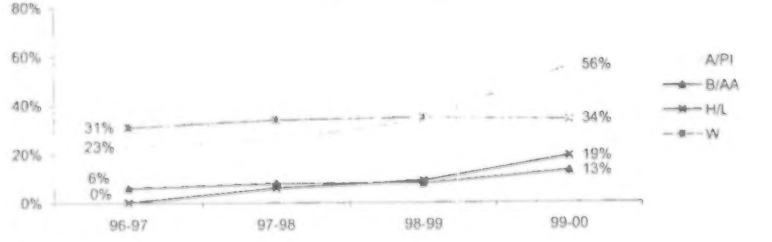
Proficiency	95-96	96-97	97-98	98-99	99-00
Prof. and Adv.		3%	4%	3%	4%
Nearing Prof.		9%	11%	12%	14%
Progressing		26%	28%	31%	29%
Step 1		62%	58%	55%	53%
Total num of students		1,962	2,480	2,640	2,597



% Passing by Gender



% Passing by Race/Ethnicity *1



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

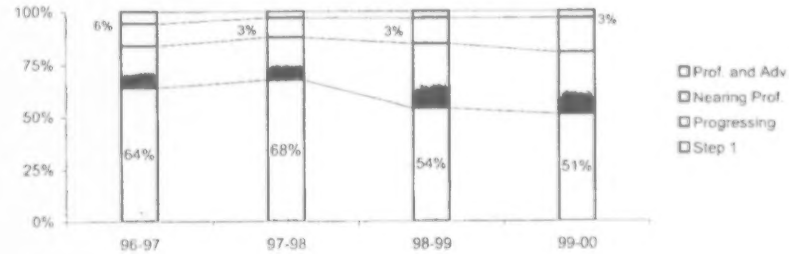
% Passing is defined as Proficient + Nearing Proficiency

*1 % Passing not presented for sample size less than 5

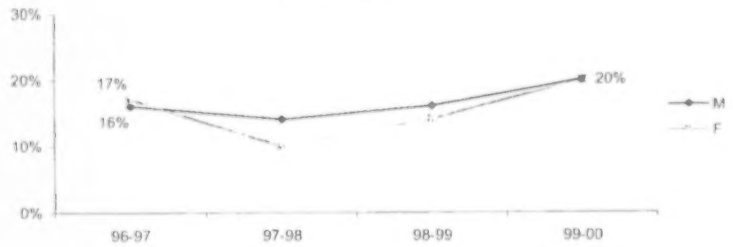
State Assessment Test Result Trends MAP - Mathematics

♦ **Grade 10**

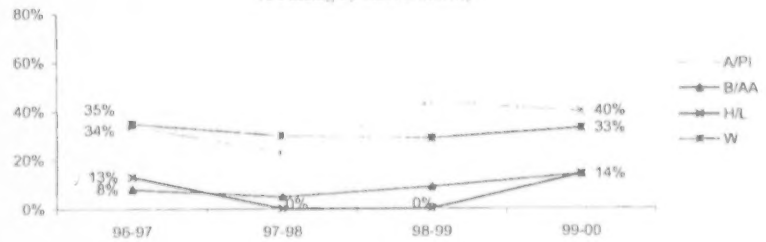
Proficiency	95-96	96-97	97-98	98-99	99-00
Prof. and Adv.		6%	3%	3%	3%
Nearing Prof.		11%	9%	12%	16%
Progressing		20%	20%	31%	29%
Step 1		64%	68%	54%	51%
Total num of students		1,096	1,472	1,533	1,570



% Passing by Gender



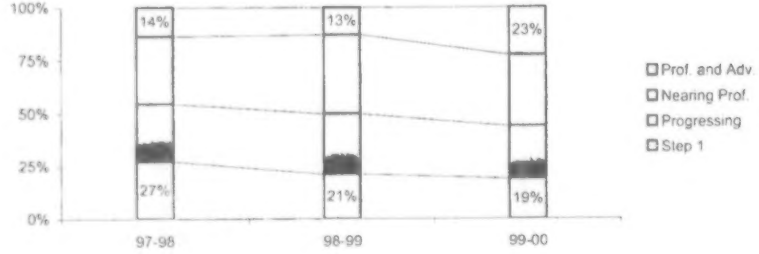
% Passing by Race/Ethnicity *1



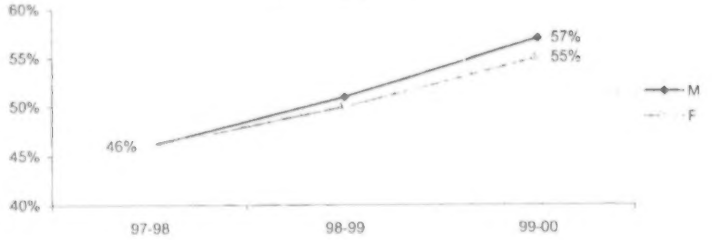
State Assessment Test Result Trends MAP - Science

♦ **Grade 3**

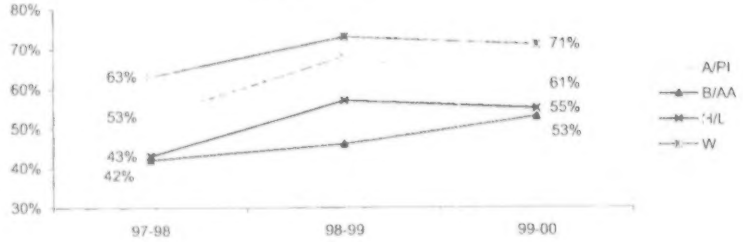
Proficiency	95-96	96-97	97-98	98-99	99-00
Prof. and Adv.			14%	13%	23%
Nearing Prof.			32%	37%	34%
Progressing			27%	29%	25%
Step 1			27%	21%	19%
Total num of students			3,676	3,823	4,056



% Passing by Gender



% Passing by Race/Ethnicity *1



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

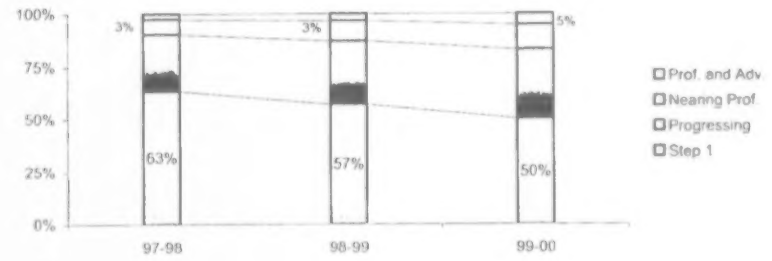
% Passing is defined as Proficient + Nearing Proficiency

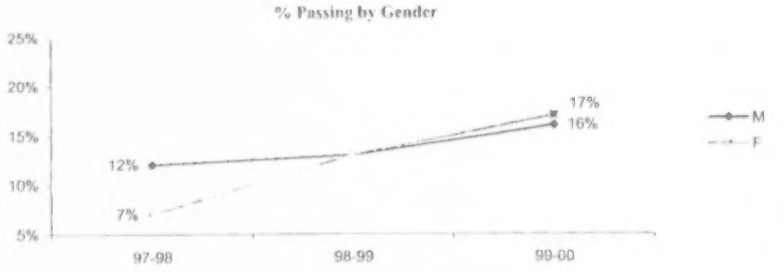
(.) Data Missing

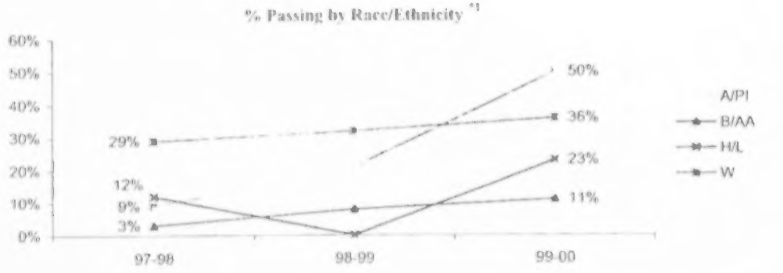
State Assessment Test Result Trends MAP - Science

Grade 7

Proficiency	95-96	96-97	97-98	98-99	99-00
Prof. and Adv.			3%	3%	5%
Nearing Prof.			7%	10%	12%
Progressing			27%	30%	33%
Step 1			63%	57%	50%
Total num of students			2,448	2,763	2,692

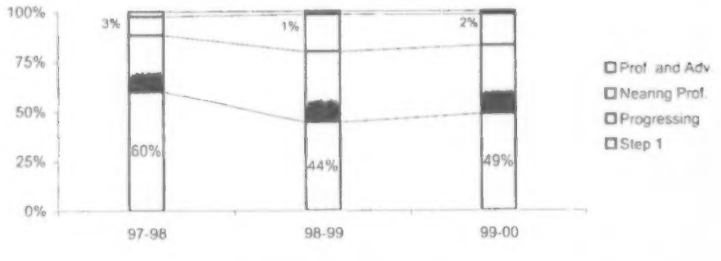


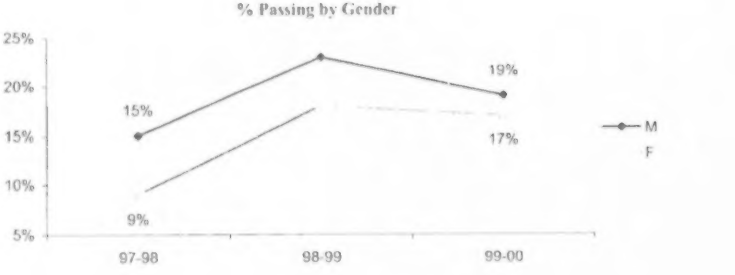


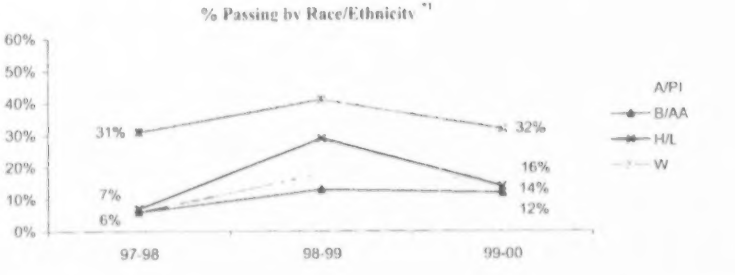


Grade 10

Proficiency	95-96	96-97	97-98	98-99	99-00
Prof. and Adv.			3%	1%	2%
Nearing Prof.			9%	19%	16%
Progressing			28%	35%	34%
Step 1			60%	44%	49%
Total num of students			1,438	1,503	1,599







AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing is defined as Proficient + Nearing Proficiency ( ) Data Missing

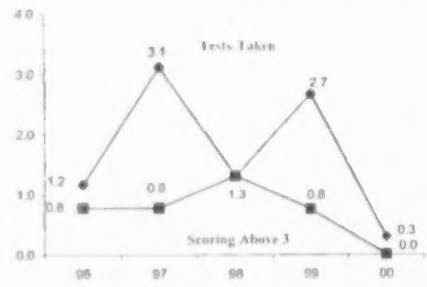
AP Mathematics Test Result Trends

• AP Mathematics (Calculus AB, Calculus BC, & Statistics)

• AP Mathematics - Total Number of Tests Taken

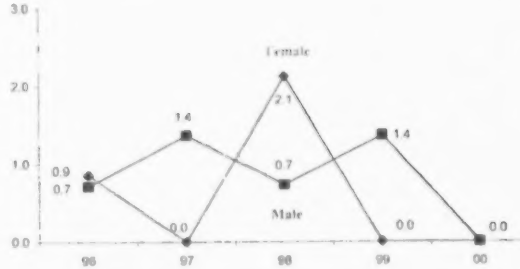
		96	97	98	99	00
Total Num of 11th & 12th students		2,576	2,571	2,303	2,630	3,372
Tests Taken	Calc. AB	3	8	3	7	1
	Calc. BC	0	0	0	0	0
	Statistics	0	0	0	0	0
	Total	**3**	**8**	**3**	**7**	**1**
Num of tests-taken/1,000 stu		1.2	3.1	1.3	2.7	0.3
Scoring Above 3		2	2	3	2	0
Num of Above 3/ 1,000 students		0.8	0.8	1.3	0.8	0.0

Number of tests taken and scoring above 3 per 1,000 students



• AP Mathematics - Number of Students Scoring Above 3 By Gender per 1,000 Students

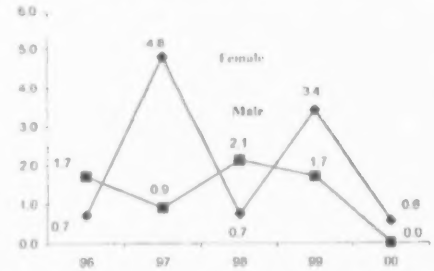
Score Above 3 per 1,000	96	97	98	99	00
Male	0.9	0.0	2.1	0.0	0.0
Female	0.7	1.4	0.7	1.4	0.0



• AP Mathematics - Number of Tests Taken By Gender Per 1,000 Students

Tests Taken per 1,000	96	97	98	99	00
Male	1.7	0.9	2.1	1.7	0.0
Female	0.7	4.8	0.7	3.4	0.6

Number of tests taken per 1,000 students by Gender



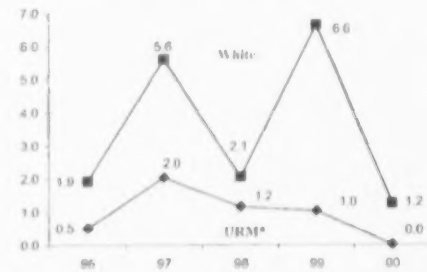
• AP Mathematics - Number of Students Scoring Above 3 By Race/Ethnicity Per 1,000 Students [*1]

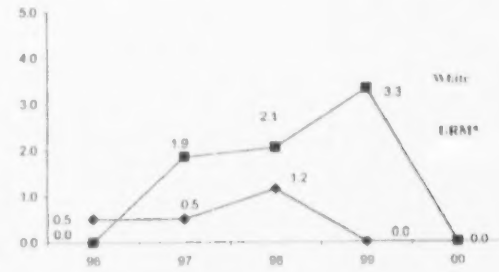
	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0
A/PI	15.2	0.0	0.0	0.0	0.0
B/AA	0.5	0.5	1.2	0.0	0.0
H/L	0.0	0.0	0.0	0.0	0.0
W	0.0	1.9	2.1	3.3	0.0

• AP Mathematics - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [*1]

	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0
A/PI	15.2	0.0	0.0	11.5	0.0
B/AA	0.5	2.0	1.2	1.0	0.0
H/L	0.0	0.0	0.0	0.0	0.0
W	1.9	5.6	2.1	6.6	1.2

Number of tests taken per 1,000 students by Race/Ethnicity





AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White

[*1] "Other" category not presented

*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

AP Science Test Result Trends

♦ AP Science - Total Number of Tests Taken

		96	97	98	99	00
Total Num of 11th & 12th students		2,576	2,571	2,303	2,630	3,372
Tests Taken	Biology	3	5	3	1	3
	Chem.	5	5	3	0	0
	Enviro. Sci.	0	0	0	0	0
	Physics B	8	0	5	0	0
	Ph. C Mech.	0	0	0	0	0
	Ph. C Elec.	0	0	0	0	0
	Total	**16**	**10**	**11**	**1**	**3**
Num of tests-taken/1,000 stu.		6.2	3.9	4.8	0.4	0.9
Scoring Above 3		10	2	7	0	0
Num of Above 3/ 1,000 students		3.9	0.8	3.0	0.0	0.0

♦ AP Science - Number of Tests Taken By Gender Per 1,000 Students

		96	97	98	99	00
Tests Taken per 1,000	Male	8.6	4.5	6.4	0.0	0.6
	Female	4.3	3.4	3.7	0.7	1.1

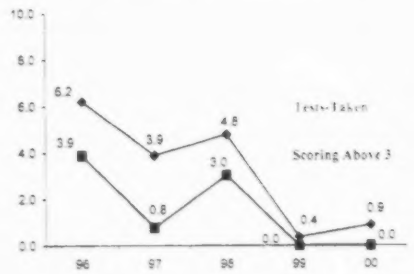
♦ AP Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [1]

	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0
A/PI	0.0	0.0	12.5	0.0	0.0
B/AA	6.1	4.6	4.6	0.5	1.2
H/L	0.0	0.0	0.0	0.0	0.0
W	19.2	7.4	12.3	0.0	2.5

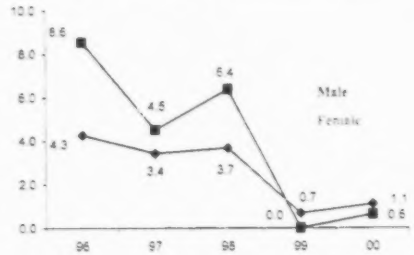
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[1] "Other" category not presented

♦ AP Science (Biology, Chemistry, Environ. Sci., Phy. B, Phy. C Mech., & Phy. C Elec.

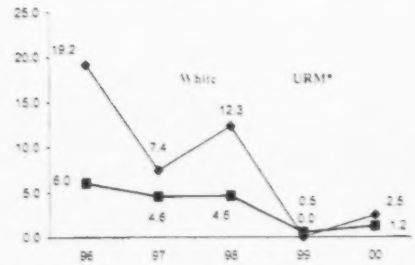
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender

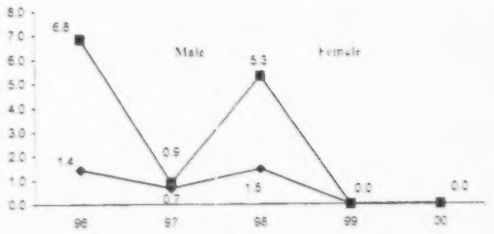


Number of tests taken per 1,000 students by Race/Ethnicity



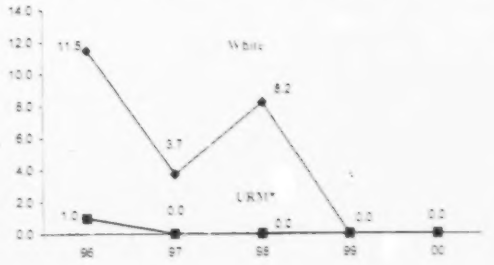
♦ AP Science - Number of Students Scoring Above 3 By Gender Per 1,000 Students

		96	97	98	99	00
Score Above 3 per 1,000	Male	6.8	0.9	5.3	0.0	0.0
	Female	1.4	0.7	1.5	0.0	0.0



♦ AP Science - Number of Students Scoring Above 3 By Race/Ethnicity Per 1,000 Students [1]

	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0
A/PI	0.0	0.0	12.5	0.0	0.0
B/AA	1.0	0.0	0.0	0.0	0.0
H/L	0.0	0.0	0.0	0.0	0.0
W	11.5	3.7	8.2	0.0	0.0



*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

AP Computer Science Test Result Trends

♦ AP Computer Science - Total Number of Tests Taken

		96	97	98	99	00
Tests Taken	Total Num of 11th & 12th students	2,576	2,571	2,303	2,630	3,372
	Comp. Sci A	0	0	0	4	7
	Comp. Sci AB	3	2	1	0	0
	Total	3	2	1	4	7
	Num of tests-taken/1,000 stu.	1.2	0.8	0.4	1.5	2.1
Scoring Above 3		3	2	1	4	7
Num of Above 3/ 1,000 students		1.2	0.8	0.4	1.5	2.1

♦ AP Computer Science - Number of Tests Taken By Gender Per 1,000 Students

		96	97	98	99	00
Tests Taken per 1,000	Male	2.6	1.8	1.1	3.4	4.5
	Female	0.0	0.0	0.0	0.0	0.0

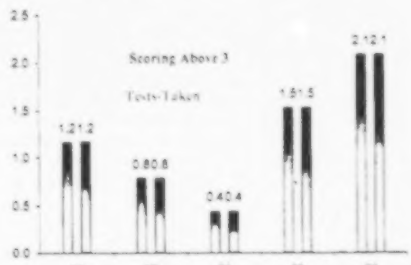
♦ AP Computer Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [1]

	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0
A/PI	0.0	0.0	0.0	11.5	10.3
B/AA	0.5	0.0	0.0	0.0	0.0
H/L	0.0	0.0	0.0	0.0	0.0
W	3.8	3.7	2.1	5.0	6.2

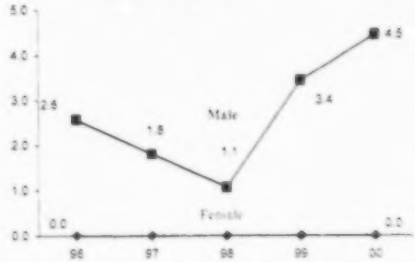
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[1] "Other" category not presented

♦ AP Computer Science (Computer Science A & AB)

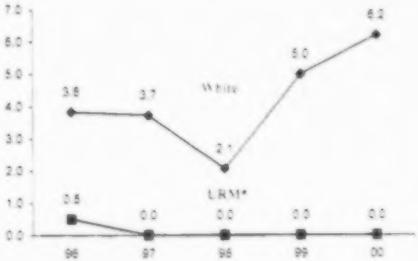
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender

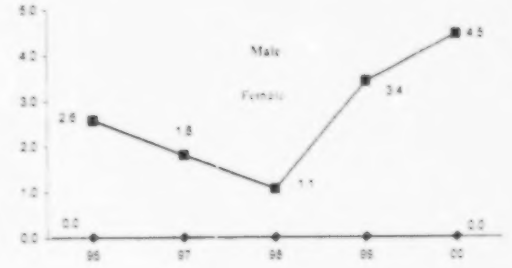


Number of tests taken per 1,000 students by Race/Ethnicity



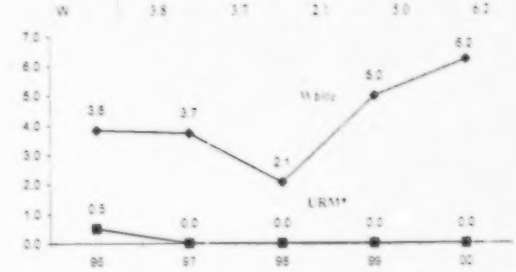
♦ AP Computer Science - Number of Students Scoring Above 3 By Gender per 1,000 Students

		96	97	98	99	00
Scores Above 3 per 1,000	Male	2.6	1.8	1.1	3.4	4.5
	Female	0.0	0.0	0.0	0.0	0.0



♦ AP Computer Science - Number of Students Scoring Above 3 By Race/Ethnicity Per 1,000 Students [1]

	96	97	98	99	00
AI/AN	0.0	0.0	0.0	0.0	0.0
A/PI	0.0	0.0	0.0	11.5	10.3
B/AA	0.5	0.0	0.0	0.0	0.0
H/L	0.0	0.0	0.0	0.0	0.0
W	3.8	3.7	2.1	5.0	6.2

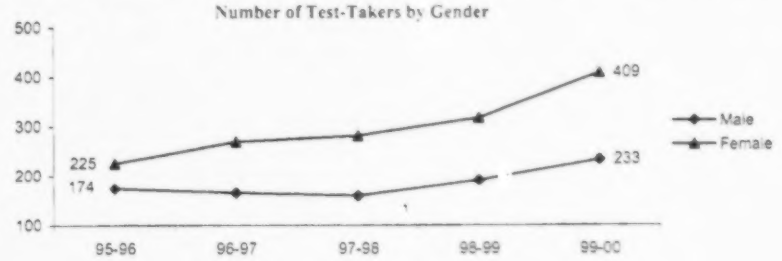


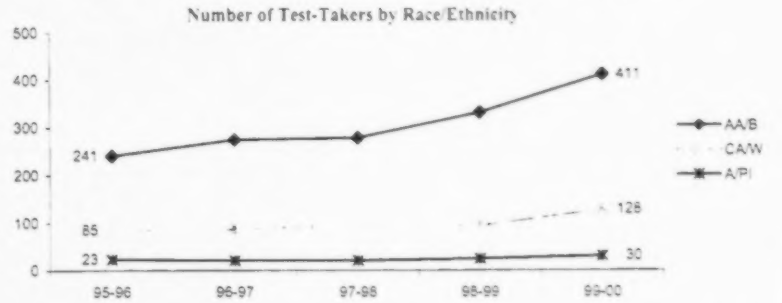
*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

ACT Test-Takers

♦ Number of Test-Takers

		95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		1,115	1,152	969	1,244	1,471
Test-Takers		399	434	440	508	644
Num of Test-Takers/1,000 Stu		358	377	454	408	438
Gender	Male	174	165	159	191	233
	Female	225	269	281	317	409
Race/Ethnicity	AA/B	241	275	279	332	411
	AI/AN *1	2	1	2	1	1
	CA/W	85	87	95	94	128
	MA/C *1	2	2	2	3	3
	A/PI	23	21	21	24	30
	PR/H *1	5	2	1	1	3

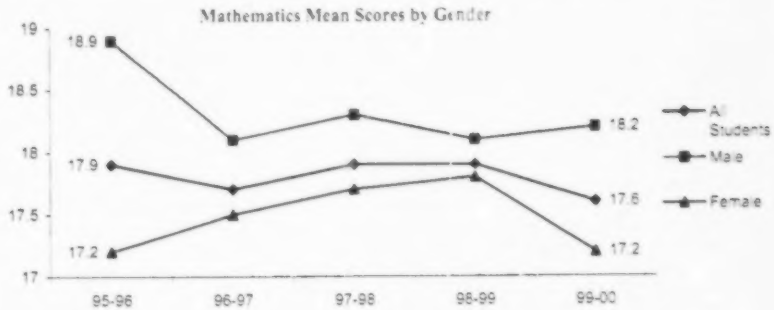


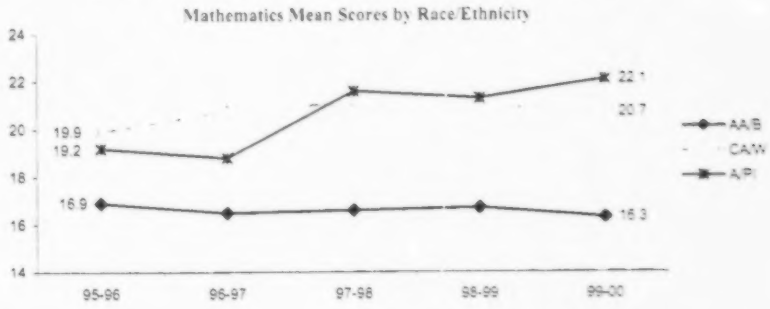


ACT Mathematics Scores

♦ Mathematics - Mean Score Trends

		95-96	96-97	97-98	98-99	99-00
All Students		17.9	17.7	17.9	17.9	17.6
Gender	Male	18.9	18.1	18.3	18.1	18.2
	Female	17.2	17.5	17.7	17.8	17.2
Race/Ethnicity	AA/B	16.9	16.5	16.6	16.7	16.3
	AI/AN *2	-	-	-	-	-
	CA/W	19.9	20.8	21.1	21.0	20.7
	MA/C *2	-	-	-	-	-
	A/PI	19.2	18.8	21.6	21.3	22.1
	PR/H *2	20.0	-	-	-	-





AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic

*1 Number of Test-Takers less than 5 not presented on graph

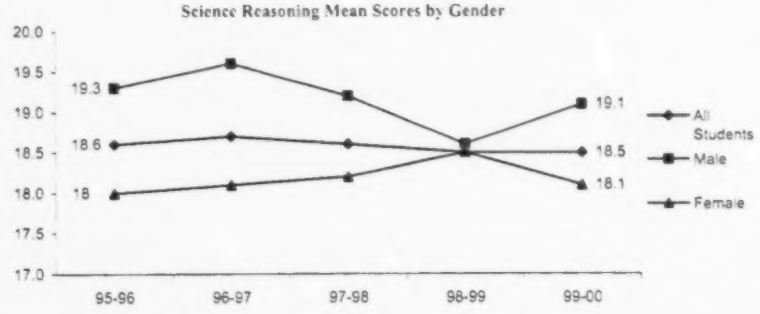
*2 Mean score not presented for sample size less than 5

ACT Science Reasoning Scores

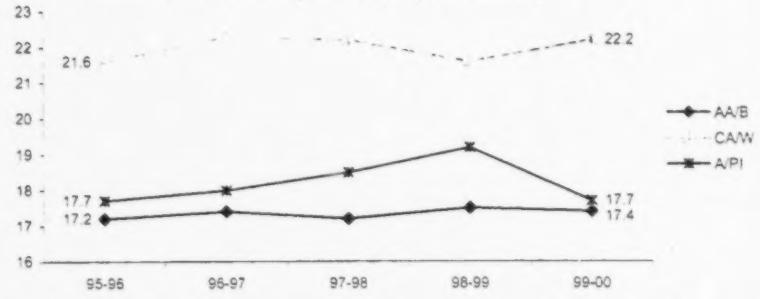
♦ **Science Reasoning - Mean Score Trends**

		95-96	96-97	97-98	98-99	99-00
All Students		18.6	18.7	18.6	18.5	18.5
Gender	Male	19.3	19.6	19.2	18.6	19.1
	Female	18.0	18.1	18.2	18.5	18.1
Race/Ethnicity	AA/B	17.2	17.4	17.2	17.5	17.4
	AI/AN *1	-	-	-	-	-
	CA/W	21.6	22.3	22.2	21.6	22.2
	MA/C *1	-	-	-	-	-
	A/PI	17.7	18.0	18.5	19.2	17.7
	PR/H *1	21.8	-	-	-	-

Science Reasoning Mean Scores by Gender



Science Reasoning Mean Scores by Race/Ethnicity



AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Caucasian/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.

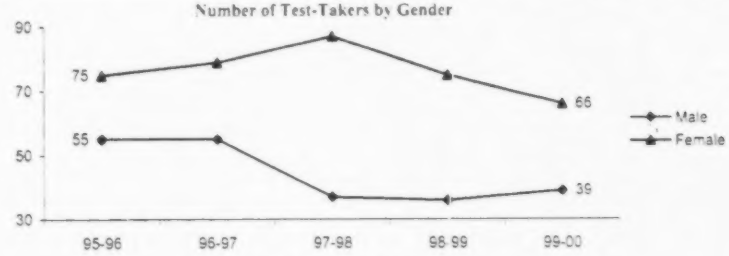
*1 Mean score not presented for sample size less than 5

SAT Test-Takers

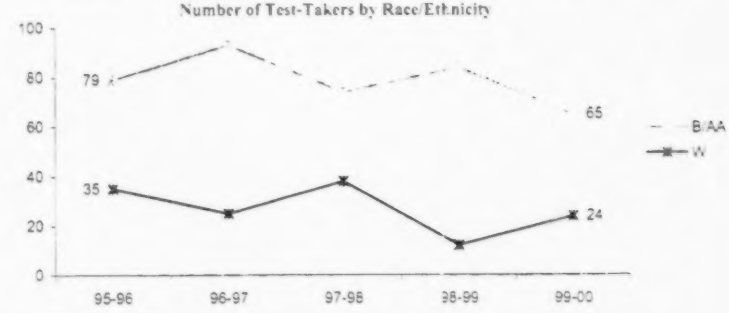
♦ **Number of Test-Takers**

		95-96	96-97	97-98	98-99	99-00
Total Num of 12th Grade Students		1,115	1,152	969	1,244	1,471
Test-Takers		130	134	124	111	105
Num of Test-Takers/1,000 Stu.		117	116	128	89	71
Gender	Male	55	55	37	36	39
	Female	75	79	87	75	66
Race/Ethnicity	AI/AN *2	1	1	0	0	1
	A/PI *2	5	4	3	4	3
	B/AA	79	93	74	84	65
	H/L *2	2	0	1	1	3
	W	35	25	38	12	24
	OT *2	7	5	0	5	4

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

*2 Number of Test-Takers less than 5 not presented on graph

SAT Mathematics Scores

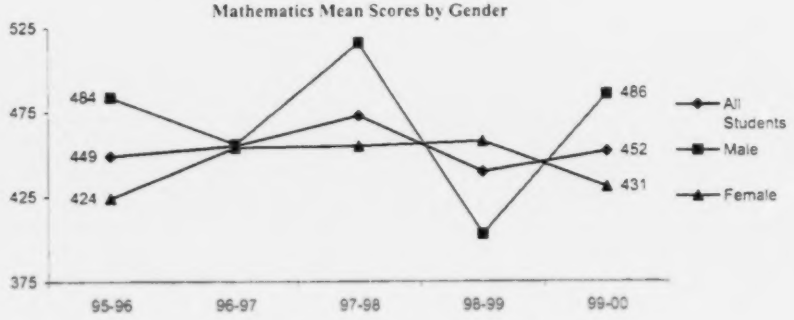
♦ **Mathematics - Mean Score Trends**

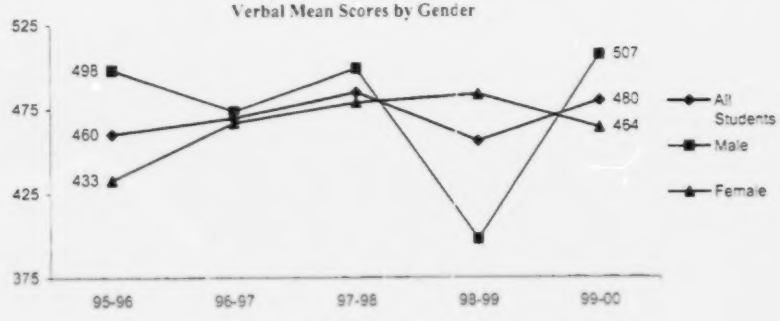
		95-96	96-97	97-98	98-99	99-00
All Students		449	455	473	440	452
Gender	Male	484	456	516	403	486
	Female	424	454	455	458	431
Race/Ethnicity	AI/AN *1	-	-	-	-	-
	A/PI *1	494	-	-	-	-
	B/AA	400	413	427	417	403
	H/L *1	-	-	-	-	-
	W	554	580	571	559	577
	OT *1	413	494	-	428	-

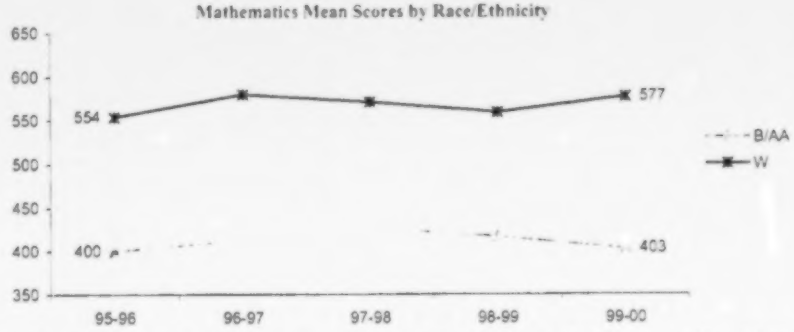
SAT Verbal Scores

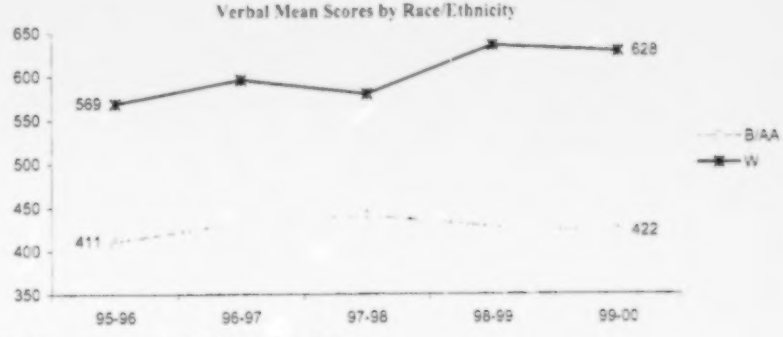
♦ **Verbal - Mean Score Trends**

		95-96	96-97	97-98	98-99	99-00
All Students		460	470	485	456	480
Gender	Male	498	474	499	398	507
	Female	433	467	479	484	464
Race/Ethnicity	AI/AN *1	-	-	-	-	-
	A/PI *1	428	-	-	-	-
	B/AA	411	433	441	428	422
	H/L *1	-	-	-	-	-
	W	569	596	580	635	628
	OT *1	466	532	-	440	-









AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

*1 Mean score not presented for sample size less than 5

*2 Number of Test-Takers less than 5 not presented on graph

Cohort/Scale-Up Approach

	96-97	97-98	98-99	99-00
Number of District Schools*:	*103*	*103*	104	104
USI Schools**:	24	*69*	*104*	*104*
% Schools:	23%	*67%*	*100%*	*100%*

*Core Data Elements 2000-2001, **K-1 2000

Italics: Data Imputed

Primary Decision Making Body

Standards Curriculum	District
Curriculum/TextBook Adoption	District
Student Assessment	District
Professional Development	District
Resources	District
Teacher Hiring	District
Teacher Contracts	District
Certification & Re-certification	State
Graduation Requirements	District
School-Based Management?	Yes

Policies Promoting Equal Access by All Students in High Quality Education

Student Tracking:
- None

Criteria for Entry into High Level Mathematics and Science Courses:
- Algebra and biology specified as core curriculum courses for all G9 students
- A unitary program of studies adapted for all students

Availability of High Level Courses:
- All students have access to high-level courses

Special Education and Bilingual Students:
- A policy of inclusion, mainstreaming, and class-within-a-class models have been implemented to accommodate these students needs

Policies Impacting the Enrollment of Students in Challenging Math and Science Courses

Attendance:
- Promotion and attendance policies designed to support students' persistence to graduation

Guidance:
- Planned activates designed to promote science, mathematics and technology learning and career development

Student Support Systems:

Policies Relevant to Curriculum

Framework:

Curricula:

Curricula Materials:
- Investigations
- Full Option Science (FOSS)

New Courses Added as a Result of USI:

Instructional Time:
- K-G5: 150 minutes per week in mathematics and science, with at least 1 40-60 minute laboratory
- G6-8: extended mathematics and science laboratory classes
- G9-12: laboratory class at least 2 times per week

Standards-based Curriculum and Instruction

Standards Adopted:
- National Council of Teacher of Mathematics (NCTM)
- National Science Education (NSE)

Primary Instructional Strategies:
- Inquiry-based class activity
- E: Direct instruction combined with constructionist approaches
- M: Direct instruction combined with inquiry-based and performance-based instruction
- H: Mathematical modeling: inquiry/performance based learning following direct instruction

% of Students Experiencing Standards-based Mathematics Curriculums:	E: 65% M: 65% H: 75%
% of Students Experiencing Standards-based Science Curriculums:	E: 65% M: 65% H: 75%

E: Elementary School M: Middle School H: High School

Policies Relevant to Teacher Qualifications

Certification:
- Recruitment strategies have been broadened to allow for alternative certifications for critical areas of instruction

Requirement & Hiring Practices
- Aggressive recruitment and retention efforts continue, but there remains a critical shortage of teachers in mathematics and science

Professional Advancement & Leadership Training:

Contract Requirements:
- Policies are designed to attempt to foster and sustain a stable, qualified workforce

Professional Development Policies and Practices

Time Required or Supported:
- School-based models ensure full-participation in after school and Saturday activities

Financial Resources Provided:

Alignment to Student Standards:
- Focus on alignment of curriculum, instruction, and assessment goals

Measurement of Impact:

Type and Amount Received by Average Math/Science Teacher:
- Several workshops in Investigations (math) and Full Option Science (FOSS) kits
- One semester for selected middle school algebra teachers of a Saturday morning course taught by Math Curriculum Supervisor
- Science teachers involved in monthly meetings
- Biology group meets with Washington University Biology/ Botanical Garden Outreach program to design lab sessions and create diagnostic quizzes

Evaluation Instruments:
- Workshop evaluation forms plus additional follow-up activities on site
- Portfolios and student work
- Diagnostic quizzes (high school)

Professional Development Alignment to Content Standards Measures:

Teacher's Instructional Practices Evaluation:
- Observation checklists for examining inquiry-based strategies employed in classrooms
- Interviews, observations, analysis of lesson plans, and focus group discussion
- Senior Evaluator interviewed high school teachers involved with the diagnostic quizzes to assess instructional culture, assessment understanding, and availability of resources

Impact on Student Achievement:
- Engaging staff in analyzing and interpreting data
- Use of diagnostic quizzes (high school) to associate student outcomes and professional development

Policies Relevant to Standards-based Assessments

Extent to Which Assessments are Aligned to District Standards and Curriculums:
- Alternative assessments have been mandated in order to broaden the scope of data available to gauge curriculum effectiveness and student learning
- Curriculum standards aligned with state standards as assessed by Missouri Achievement Program - the District's high stakes test

Methods stakeholders are informed of goals, objectives and accomplishments of assessment program:
- Individual student five-week diagnostic quiz results by curriculum objective (high school)
- Test profiles
- Student grades
- Parent-Teacher conferences
- District's Annual Report to the Community
- Media publication of MAP results

USI Leadership, Governance, and Management

Superintendent:
- NSF required District to appoint a Senior Advisor for student achievement and accountability in January 1999

USI Office:
- Project Director and Divisional Assistants for Administration and Fiscal Control

Community Key Personnel:
- Liaisons with universities, Science Center, Botanical Garden, and Zoological Park

Teacher Leaders:
- Teacher Mentors

Partnerships

Other Key Initiatives:
- Danforth Foundation
- Roblee Foundation
- MidWest Regional Education Consortium
- Cooperating School District
- School Partnership Program

Community Stakeholders:
- Parents

Higher Education:
- Washington University
- Saint Louis University
- Maryville University
- Harris-Stowe State College
- University of Missouri - Saint Louis
- Saint Louis Community College
- Fontbonne College

Business and Industry:
- General American Insurance Inc.
- Health Link, Inc.

Other Partnerships:
- Saint Louis Science Center
- Missouri Botanical Garden
- Zoological Park

Policy Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	• Board policy has consistently supported challenging standards • Mathematics and science requirements for graduation had traditionally exceeded State minimum standards requirements by a year
1996-97	• No changes reported
1997-98	• Increased high school graduation requirements in math and science creating a four-year continuum
1998-99	• No changes reported

Curriculum and Instruction Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	• The status of the mathematics curriculum and instruction had been influenced by the development and introduction of National Standards even before the implementation of USI • Prior to the implementation of USI, improvements in the science curriculum were stalled due to the national debate concerning the aims of science curriculum. The result was differentiated courses at ninth grade and a lack of a uniform, focused delivery
1996-97	• No changes reported
1997-98	• Engagement in inquiry-based class activity supported by extended instructional time and laboratory periods
1998-99	• No changes reported

Professional Development Policy and Program Changes to Support Teachers During USI Implementation

School Year	Policy Implemented
Before USI	•Eisenhower Professional Development Program funds provided resources for Math and Science teachers •A broad range of activities was designed to enhance content knowledge and instructional approaches was aimed primarily at elementary and middle school teachers •Although generally aligned with District goals of improving teacher performance, the effort was not integrated with other District initiatives •Professional development was not mandatory
1996-97	•No changes reported
1997-98	•Programs and resources targeting science and mathematics teaching (SMT) are collapsed under the USI protocol to promote a more focused targeted delivery system •USI Professional Development Program (incorporating Title I, and Title II)
1998-99	•District-wide and school-based programs emanate from a unitary focus on the delivery of standards-based curriculum and assessment •USI Professional Development centered around curriculum implementation: K-G5: Investigations (math), inquiry/performance based, G6-8: connected math pilots, G9-12: computer enhanced learning, curriculum articulation and coordination

Standards-based Assessment System Changes During USI Implementation

School Year	Policy Implemented
Before USI	•Prior to USI the District used the statewide Missouri Mastery Achievement Test (MMAT), a criterion-referenced test for selected grades and the local employment of the SAT-8, administered K-12
1996-97	•Missouri Assessment Program (MAP), standards-based for mathematics
1997-98	•Adopted a revised, comprehensive assessment plan which included constructivist models, periodic interim content assessments, performance assessments, portfolio assessments, and student projects •Missouri Assessment Program (MAP), mathematics science, communication arts •Stanford Achievement Test (SAT-9)
1998-99	•Interim content-specific quizzes linked to curriculum standards and curriculum instruction pacing

School District Progress Report

March 2002

BEST COPY AVAILABLE

Atlanta USI

Project Information

USI Project Title : Atlanta USI
Cohort: 96 (Sept. 97 - Aug. 03)
USI Web Site:

♦ PI, CO-PI and PD

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Atlanta Systemic Initiative
P.O.Box 16925
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♦ USI Schools Math & Sci. Teachers and Students

99-00	Schools	Teachers	Students
K-G5 (Elementary)	24	790	11,183
G6-8 (Middle)	17	126	12,046
G9-12 (High)	11	92	11,385
Total	52	1,008	34,614

Project Summary

The Atlanta Systemic Initiative (ASI) will serve all K-12 students enrolled in Atlanta Public Schools (APS). ASI will provide 100 hours of professional development (PD) to 1,600 elementary school, 200 middle school and 150 high school teachers and 50 special needs teachers designed to alter their pedagogical approach, as well as 350 administrators, instructional specialists, counselors, registrars and paraprofessionals. APS parents, community members, the Atlanta Business and higher education communities will also participate in ASI.

All instructional personnel will be trained in the use of technology as a tool which provides instructional support and access for all students. Further, they will be trained in the development and use of alternative assessments designed to measure student achievement. Emphasis in the ASI classrooms will be on inquiry and problem solving. A Math and Science Model Teacher Leaders will be trained to assure that ASI practices are adopted and used in each APS math/science classroom

Students will be engaged in experiments, simulations and modeling activities, as well as utilizing technology to access and retrieve data, and communicate. A multifaceted approach to learning will be employed. Students will be afforded experimental, collaborative, cooperative, small group, and informal educational opportunities. Parents, business persons, college and university students, and others will augment the APS students' educational opportunities in science and mathematics. All APS students will complete 4 years of mathematics and 4 years of science to earn a high school diploma.

Project Goals

To provide all Atlanta Public School students with the fundamentals of mathematics and science, so that their understanding, ability, and academic achievement enables them to perform at or above their peers from around the United States, while experiencing success in the Twenty-First Century , i.e. mathematical and scientific literacy sufficient for citizenship and competency sufficient for life and work in a technological age.

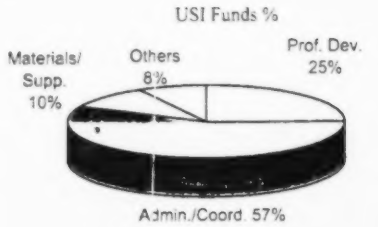
Selected School Indicators (District Average)

	97-98	99-00	Change
%Special Ed.	7.7%	8.0%	+0.3 PP
%LEP	1.7%	3.0%	+1.3 PP
%FRL	74.6%	67.0%	-7.6 PP
%Daily Ave. Atten.	92.3%	89.0%	-3.3 PP
%Average Retained	5.0%	13.0%	+8.0 PP
%Drop-Out	5.0%	·	·
%Mobility	42.8%	43.0%	+0.2 PP
Per Pupil Cost ($)	$7,689	$7,511	-2.4%
Num of Students Per Computer	9	5	-80.0%
% Classrooms Internet Access	50.0%	100.0%	+50.0 PP
Average Class Size	26	25	-3.8%

(·) Data Missing PP: Percentage Points

District and USI Fund Utilization (SY 1999-00)

	District	USI
Prof. Dev.	20%	25%
Admin./Coord.	63%	57%
Materials/Supp.	9%	10%
Others	8%	8%
Total	100%	100%



Atlanta USI

Student Demographics (SY 1999-00)

District Total:	55,889	
USI Schools:	34,614	62%

♦ Race/Ethnicity

	97-98	99-00	%	Change
Ame. Ind./Ala. Nat.	25	28	0.1%	+12.0%
Asian/P. Islander	743	556	1.0%	-25.2%
Black	50,772	50,108	89.7%	-1.3%
Hispanic	1,135	1,422	2.5%	+25.3%
White	3,482	3,598	6.4%	+3.3%
Other	194	177	0.3%	-8.8%
Total	56,351	55,889		-0.8%
URM Total	51,932	51,558	92.3%	-0.7%

URM: Underrepresented Minority students.

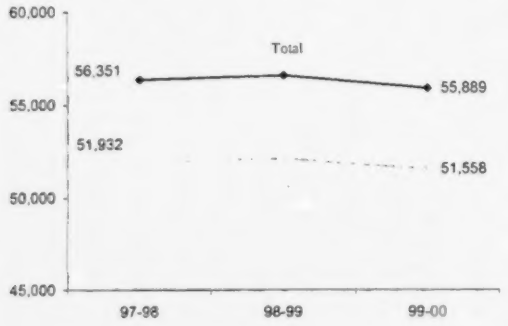
♦ Gender

Male	28,081	27,898	49.9%	-0.7%
Female	28,270	27,991	50.1%	-1.0%

♦ Grade

K-G5	31,376	31,213	55.8%	-0.5%
G6-8	11,698	12,044	21.5%	+3.0%
G9-12	11,778	11,116	19.9%	-5.6%
Ungraded	1,499	1,516	2.7%	+1.1%

♦ District-Wide Student Demographic Trends



12th Grade Graduates

	97-98	99-00	Change
Total 12th Grade	2,122	2,082	-2%
Earned a Diploma	2,098	2,053	-2%
% Earned Diploma	99%	99%	+0 PP

% Earned Diploma

College Entrance

	97-98	99-00	Change
2 Yr College	128	149	+16%
4 Yr College	1,097	926	-16%
Other Post-Secon.	181	262	+45%
Total C. E.	1,406	1,337	-5%
% C. E./Earned Dip.	67%	65%	-2 PP

% College Entrance

High School Graduation Requirements (SY 1999-00)

- Mathematics
  - 21 Carnegie units (315 hours).
  - State of Georgia assessment requirements.
  - 3-4 years
- Science
  - 21 Carnegie units (315 hours).
  - State of Georgia assessment requirements.

PP: Percentage Points

Math and Science Teachers & Certification

♦ Mathematics (G6-12)

		97-98	99-00	Change
G6-8	Teachers	125	123	-2%
	Certified	18	14	-22%
	% Cert.	14%	11%	-3 PP
G9-12	Teachers	95	123	+29%
	Certified	91	83	-9%
	% Cert.	96%	67%	-28 PP
Total	Teachers	220	246	+28%
	Certified	109	97	-31%
	% Cert.	50%	39%	-10 PP

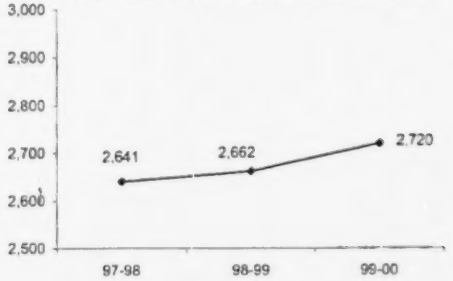
♦ Science (G6-12)

		97-98	99-00	Change
G6-8	Teachers	75	75	+0%
	Certified	11	7	-36%
	% Cert.	15%	9%	-5 PP
G9-12	Teachers	97	91	-6%
	Certified	91	84	-8%
	% Cert.	94%	92%	-2 PP
Total	Teachers	220	166	-25%
	Certified	102	91	-11%
	% Cert.	46%	55%	+8 PP

♦ Math and Science (K-G5)

		97-98	99-00	Change
K-G5	Teachers	2,201	2,308	+5%

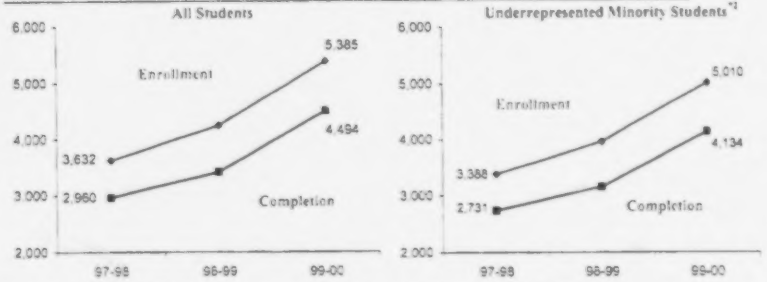
Total Number of Math and Sci. Teachers (K-G12)



Mathematics and Science Enrollment &Completion Trends/ All vs. URM

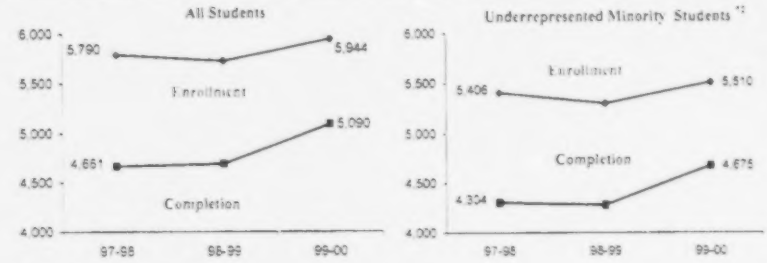
G 9-12 Mathematics Gate-Keeping Courses (Algebra II, Geo., and Calculus)

		97-98	98-99	99-00
Total G 9-12 Population		11,778	11,473	11,116
All Students	Enrollment	3,632	4,237	5,385
	Completion [1]	2,960	3,422	4,494
	% Enroll/ G9-12	31%	37%	48%
URM [2]	Enrollment	3,388	3,953	5,010
	Completion [1]	2,731	3,157	4,134
	% Enroll/ G9-12	31%	37%	48%



G 9-12 Science Gate-Keeping Courses (Biology 1, Chem. 1, and Physics 1)

		97-98	98-99	99-00
Total G 9-12 Population		11,778	11,473	11,116
All Students	Enrollment	5,790	5,727	5,944
	Completion [1]	4,661	4,685	5,090
	% Enroll/ G9-12	49%	50%	53%
URM [2]	Enrollment	5,406	5,299	5,510
	Completion [1]	4,304	4,281	4,675
	% Enroll/ G9-12	46%	46%	53%

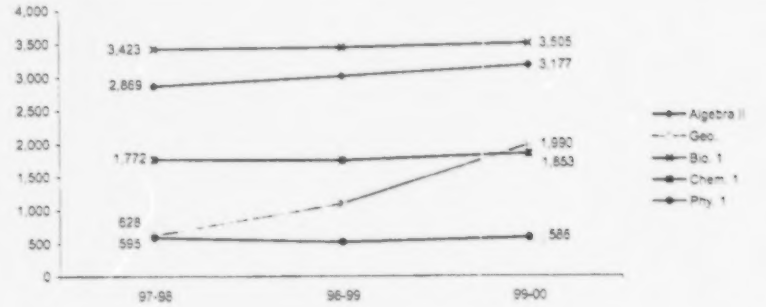


[1] Successful completion: grade 'C' or above
[2] Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Mathematics and Science Enrollment & Completion Trends By Subject

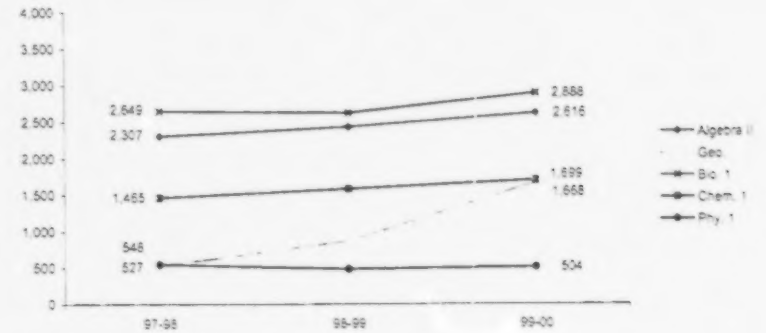
G 9-12 Course Enrollment (All Students)

	Algebra II	Geo.	Calculus [3]	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
97-98	2,869	628	136	3,632	3,423	1,772	595	5,790
98-99	3,020	1,093	124	4,237	3,449	1,755	523	5,727
99-00	3,177	1,990	219	5,385	3,505	1,853	586	5,944



G 9-12 Course Completion [1] (All Students)

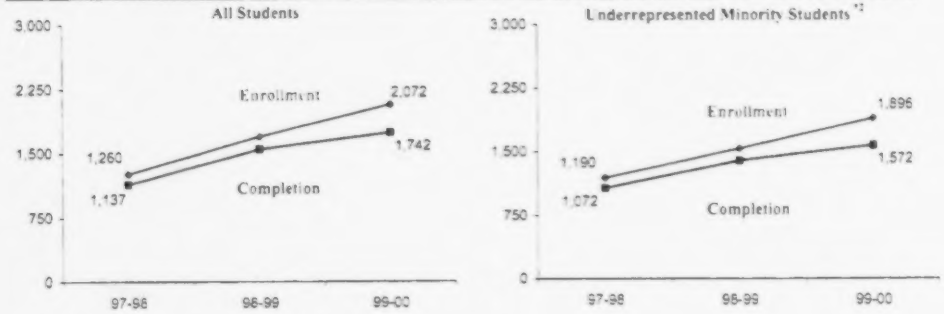
	Algebra II	Geo	Calculus [3]	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
97-98	2,307	527	127	2,960	2,949	1,465	548	4,661
98-99	2,431	872	119	3,422	2,624	1,582	480	4,685
99-00	2,616	1,668	210	4,494	2,888	1,699	504	5,090



[3] Calculus not represented on graph

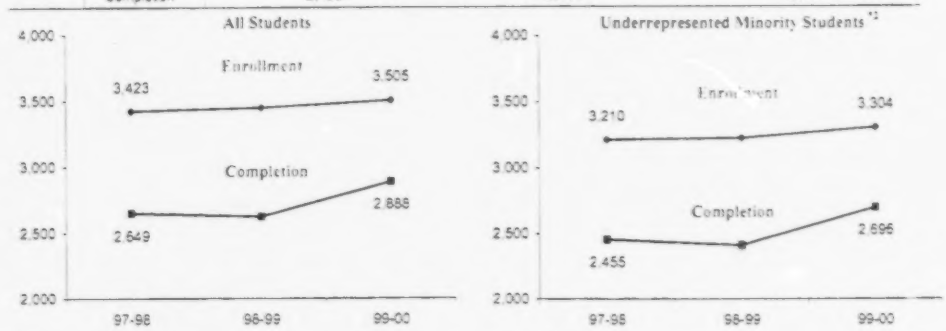
Algebra I or Above in 8th Grade Enrollment & Completion Trends/ All vs. URM

		97-98	98-99	99-00
Total G 8 Population		3,737	3,762	3,827
All Students	Enrollment	1,260	1,696	2,072
	Completion *1	1,137	1,548	1,742
	% Enroll/ G8	34%	45%	54%
URM *2	Enrollment	1,190	1,535	1,896
	Completion *1	1,072	1,393	1,572
	% Enroll/ G8	34%	44%	53%



Biology Enrollment & Completion Trends/ All vs. URM

		97-98	98-99	99-00
All Students	Enrollment	3,423	3,449	3,505
	Completion *1	2,649	2,624	2,888
URM *2	Enrollment	3,210	3,224	3,304
	Completion *1	2,455	2,410	2,696



*1 Successful completion: grade 'D' or above. *2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Professional Development Participation of Teachers Teaching Mathematics and/or Science

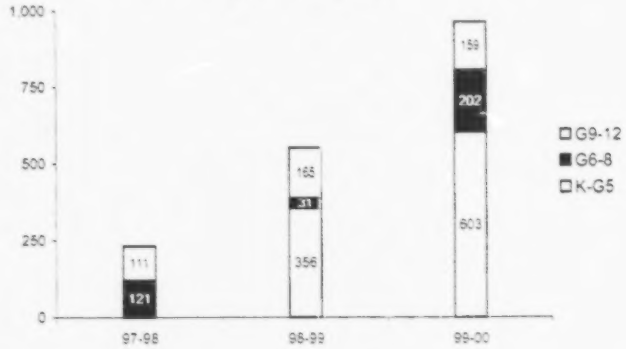
Total Number Teachers by Subject (G6-12)

	97-98	98-99	99-00
Mathematics	216	223	208
Science	171	170	153

Total Number of Teachers Participating in PD by Grade Level

Teachers	97-98	98-99	99-00
Total K-G5	2,201	2,284	2,308
# K-G5 Participated	0	356	603
% K-G5 Participated	0%	16%	26%
Total G6-8	197	199	202
# G6-8 Participated	121	31	202
% G6-8 Participated	61%	16%	100%
Total G9-12	190	194	159
# G9-12 Participated	111	165	159
% G9-12 Participated	58%	85%	100%

Number of Teachers Participating in Professional Development by Grade Level Taught



Number of Teachers by Duration of Professional Development

	97-98	98-99	99-00
1-59 Hours	232	206	867
60-119 Hours	0	39	51
120-200 Hours	0	0	35
More than 200 Hours	0	0	3

District Assessment Test Administered

♦ Mathematics

	97-98	98-99	99-00
Test Name	ITBS/TAP	ITBS/TAP	ITBS/TAP
Scoring	PC	PC	OT
Grade	K-10	K-10	K-10
Type	NRT	NRT	NRT,CRT

♦ Science

	97-98	98-99	99-00
Test Name	ITBS/TAP	ITBS/TAP	ITBS/TAP
Scoring	PC	PC	OT
Grade	K-10	K-10	K-10
Type	NRT	NRT	NRT,CRT

State Assessment Test Administered

♦ Mathematics

	97-98	98-99	99-00
Test Name	GHSGT	GHSGT	GHSGT
Scoring	PC	PC	PC
Grade	9-12	9-12	9-12
Type	CRT	CRT	CRT

♦ Science

	97-98	98-99	99-00
Test Name	GHSGT	GHSGT	GHSGT
Scoring	PC	PC	PC
Grade	9-12	9-12	9-12
Type	CRT	CRT	CRT

*ITBS: Iowa Tests of Basic Skills *TAP: Tests of Achievement and Proficiency

*GHSGT: Georgia High School Graduation Tests

PC: Percentile SN: Stanine PL: Performance Level

PF: Pass/Fail SS: Scaled Score OT: Other

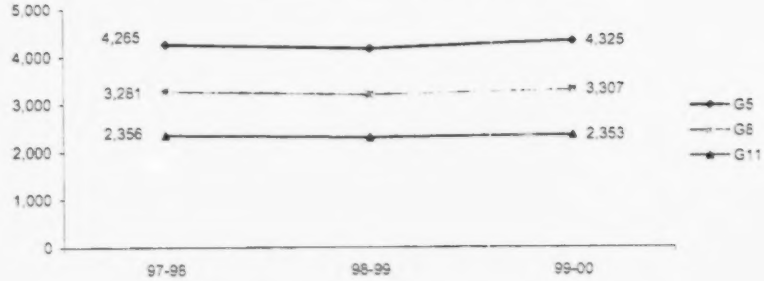
NRT: Norm-Referenced Test CRT: Criterion-Referenced Test

District/ State Assessment Test-Taker Trends ITBS/ GHSGT

♦ Mathematics (Test Takers)

# of Test Takers	97-98	98-99	99-00
Grade 5	4,265	4,170	4,325
Grade 8	3,281	3,205	3,307
Grade 11	2,356	2,304	2,353

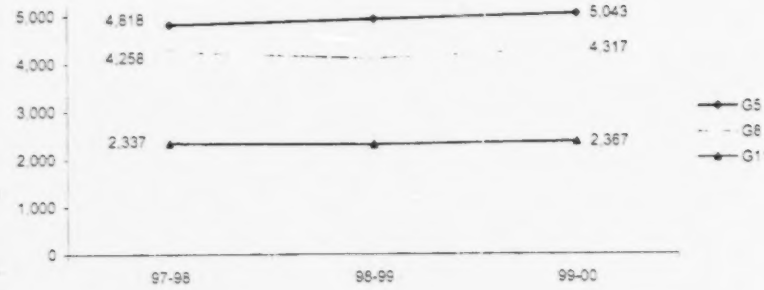
Total number of students taking test



♦ Science (Test Takers)

# of Test Takers	97-98	98-99	99-00
Grade 5	4,818	4,929	5,043
Grade 8	4,258	4,108	4,317
Grade 11	2,337	2,310	2,367

Total number of students taking test



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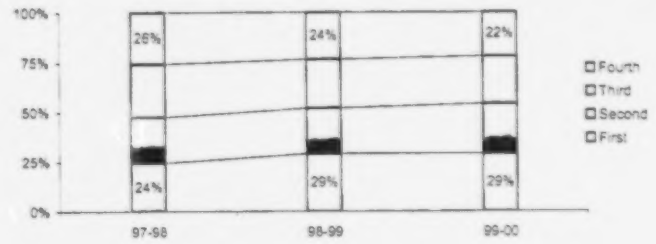
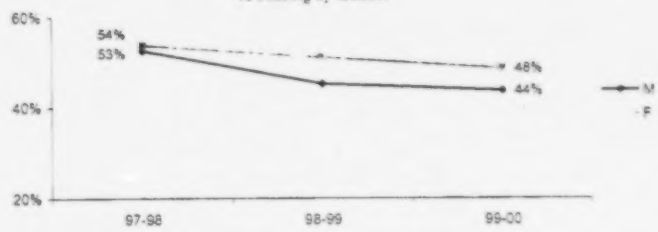
District Assessment Test Result Trends - ITBS Mathematics

♦ **Grade 5**

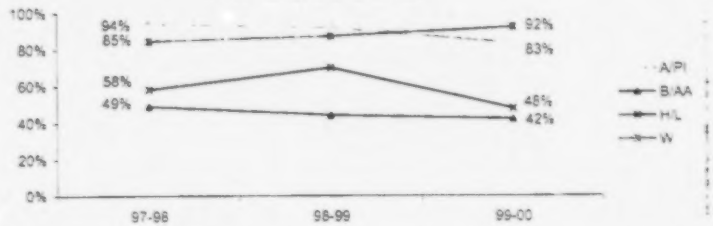
Quadrant	97-98	98-99	99-00
Fourth	26%	24%	22%
Third	27%	24%	24%
Second	23%	23%	25%
First	24%	29%	29%
Total num of students	4,265	4,170	4,325



% Passing by Gender



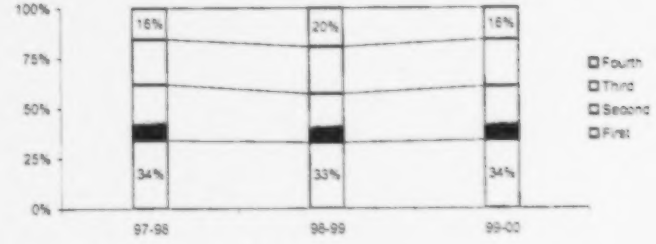
% Passing by Race/Ethnicity*1



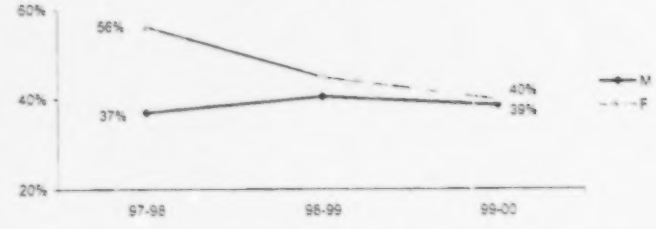
District Assessment Test Result Trends - ITBS Mathematics

♦ **Grade 8**

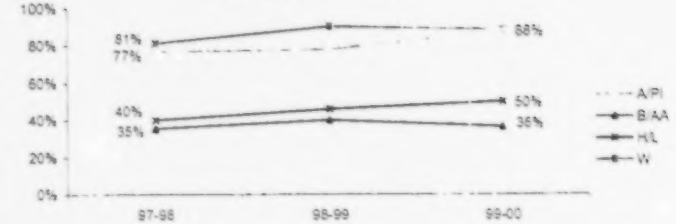
Quadrant	97-98	98-99	99-00
Fourth	16%	20%	16%
Third	22%	23%	23%
Second	28%	24%	27%
First	34%	33%	34%
Total num of students	3,281	3,205	3,307



% Passing by Gender



% Passing by Race/Ethnicity*1



A/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as 3rd Quadrant + 4th Quadrant

*1 % Passing not presented for sample size less than 5

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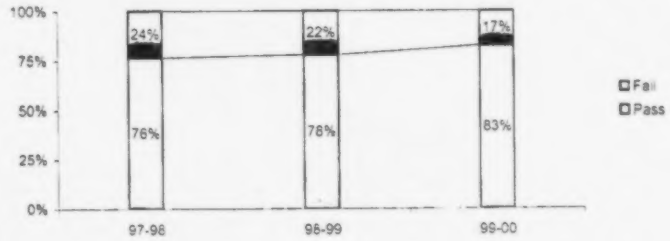
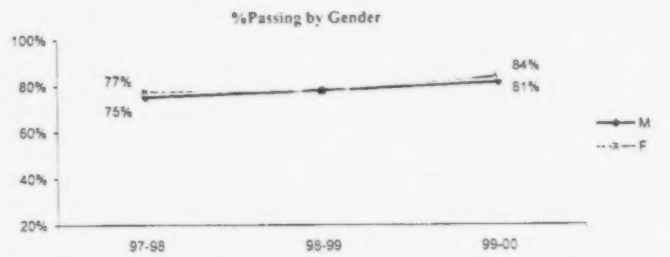
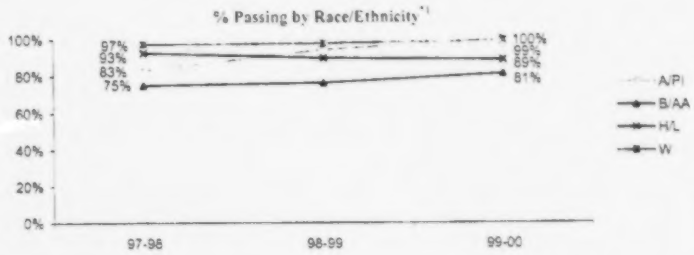
State Assessment Test Result Trends - GHSGT Mathematics

♦ **Grade 11**

	97-98	98-99	99-00
Pass	76%	78%	83%
Fail	24%	22%	17%
Total num of students	2,356	2,304	2,353



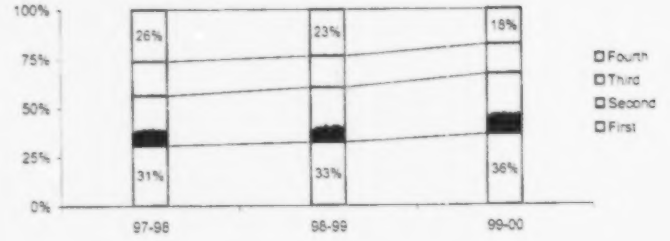


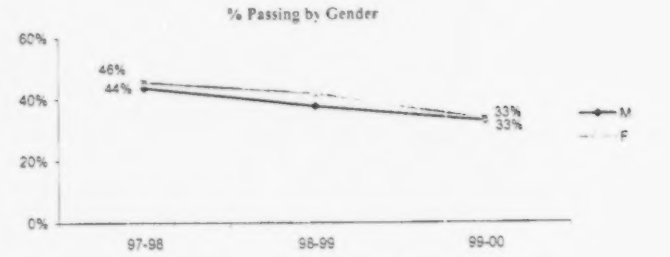


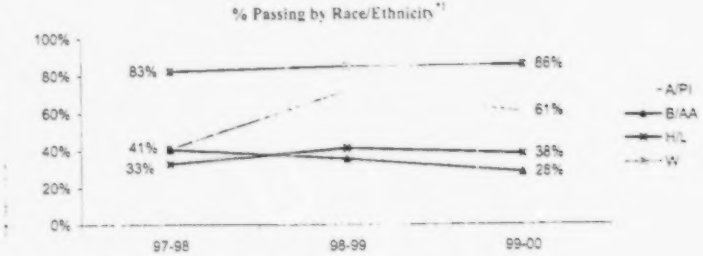
District Assessment Test Result Trends - ITBS Science

♦ **Grade 5**

Quadrant	97-98	98-99	99-00
Fourth	26%	23%	18%
Third	18%	16%	15%
Second	25%	28%	31%
First	31%	33%	36%
Total num of students	4,818	4,929	5,043







AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined Pass

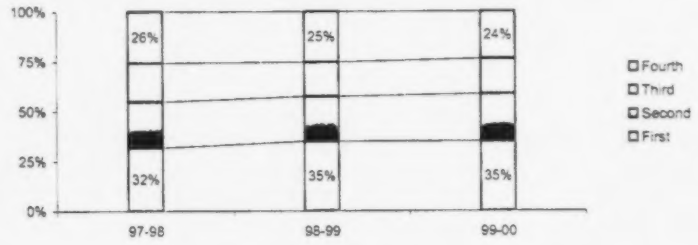
% Passing defined as 3rd Quadrant + 4th Quadrant

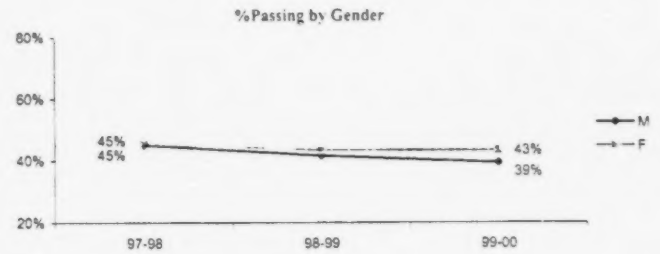
*1 % Passing not presented for sample size less than 5

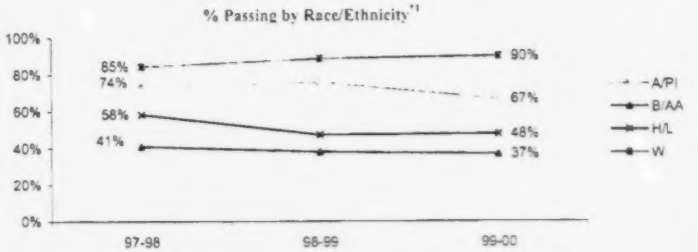
District Assessment Test Result Trends - ITBS Science

♦ **Grade 8**

Quadrant	97-98	98-99	99-00
Fourth	26%	25%	24%
Third	19%	17%	18%
Second	23%	23%	24%
First	32%	35%	35%
Total num of students	4,258	4,108	4,320



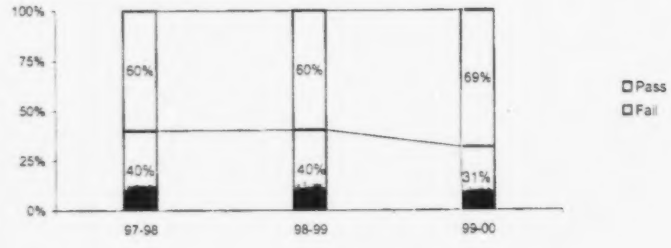


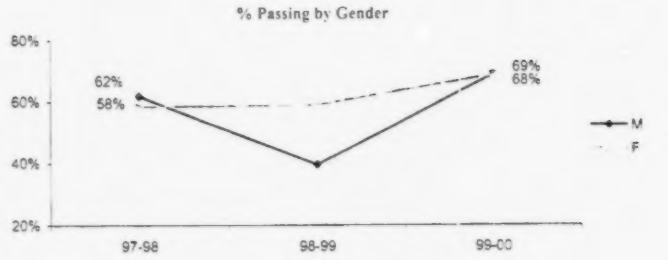


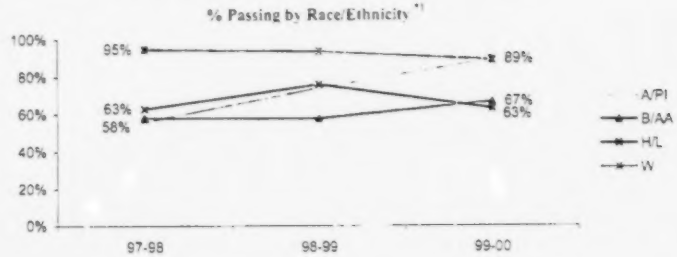
State Assessment Test Result Trends - GHSGT Science

♦ **Grade 11**

	97-98	98-99	99-00
Pass	60%	60%	69%
Fail	40%	40%	31%
Total num of students	2,337	2,310	2,367







AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as 3rd Quadrant + 4th Quadrant

% Passing defined Pass

*1 % Passing not presented for sample size less than 5

AP Mathematics Test Result Trends

• AP Mathematics - Total Number of Tests Taken

		98	99	00
Num of 11th & 12th students		4,643	4,561	4,594
Tests Taken	Calc. AB	97	140	122
	Calc. BC	0	1	1
	Statistics	1	0	24
	Total	**98**	**141**	**147**
Num of tests taken/1,000 stu.		21.1	30.9	32.0
Scoring Above 3		16	41	28
Num of Above 3/ 1,000 students		3.4	9.0	6.1

• AP Mathematics - Number of Tests Taken By Gender Per 1,000 Students

		98	99	00
Tests Taken per 1,000	Male	13.8	32.5	28.2
	Female	26.7	29.7	35.0

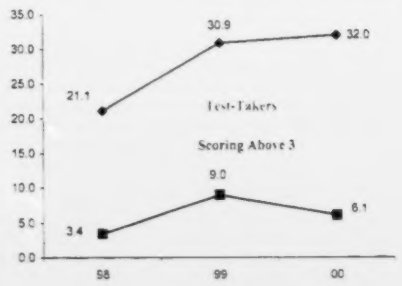
• AP Mathematics - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [*1]

	98	99	00
AI/AN	333.3	1000.0	0.0
A/PI	106.4	92.6	180.6
B/AA	17.5	20.2	23.7
H/L	0.0	73.2	22.7
W	57.1	160.2	134.5

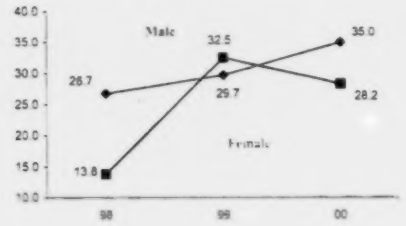
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented

• AP Mathematics (Calculus AB, Calculus BC, & Statistics)

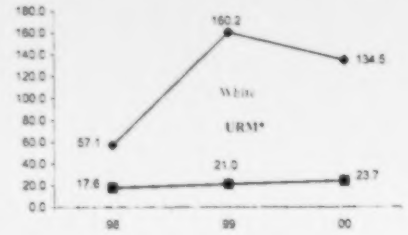
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender

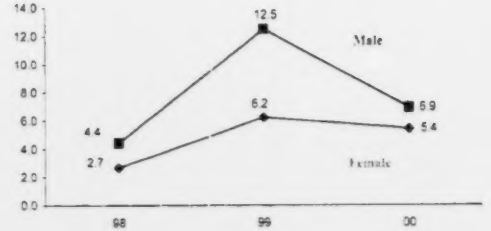


Number of tests taken per 1,000 students by Race/Ethnicity



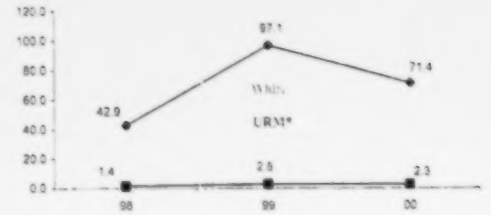
• AP Mathematics - Number of Students Scoring Above 3 By Gender Per 1,000 Students

		98	99	00
Score Above 3 per 1,000	Male	4.4	12.5	6.9
	Female	2.7	6.2	5.4



• AP Mathematics - Number of Students Scoring Above 3 By Race/Ethnicity Per 1,000 Students [*1]

	98	99	00
AI/AN	0.0	0.0	0.0
A/PI	0.0	55.6	0.0
B/AA	1.4	2.6	2.4
H/L	0.0	24.4	0.0
W	42.9	97.1	71.4



*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

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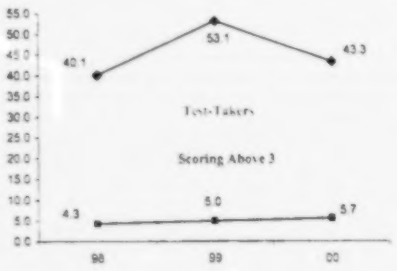
AP Science Test Result Trends ♦ **AP Science (Biology, Chemistry, Environ. Sci., Phy. B, Phy. C Mech., & Phy. C Elec.)**

♦ **AP Science - Total Number of Tests Taken**

		98	99	00
	Num of 11th & 12th students	4,643	4,561	4,594
Tests Taken	Biology	98	113	96
	Chem.	58	76	72
	Enviro. Sci.	0	0	1
	Physics B	19	53	30
	Ph. C Mech.	8	0	0
	Ph. C Elec.	3	0	0
	Total	**186**	**242**	**199**
	Num of tests taken/1,000 stu.	40.1	53.1	43.3
	Scoring Above 3	20	23	26
	Num of Above 3/ 1,000 students	4.3	5.0	5.7

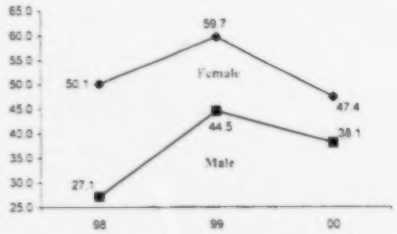
Number of tests taken and scoring above 3 per 1,000 students



♦ **AP Science - Number of Tests Taken By Gender Per 1,000 Students**

		98	99	00
Tests Taken per 1,000	Male	27.1	44.5	38.1
	Female	50.1	59.7	47.4

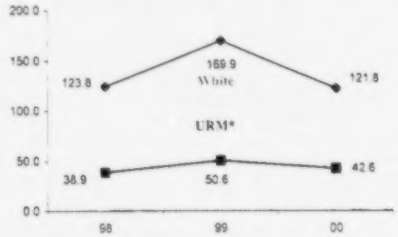
Number of tests taken per 1,000 students by Gender



♦ **AP Science - Number of Tests Taken By Race/Ethnicity Per Per 1,000 Students** [*1]

	98	99	00
AI/AN	333.3	2000.0	0.0
A/PI	63.8	55.6	125.0
B/AA	38.3	50.4	42.6
H/L	78.9	24.4	0.0
W	123.8	169.9	121.8

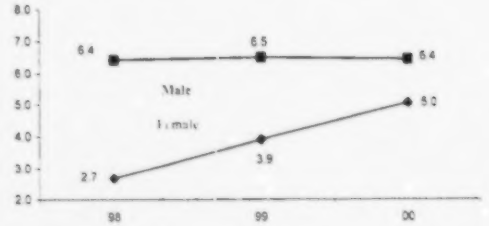
Number of tests taken per 1,000 students by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented

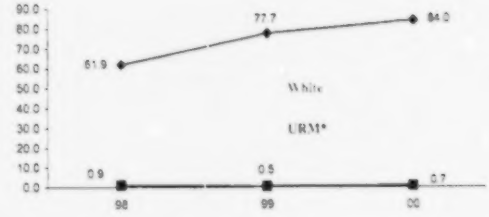
♦ **AP Science - Number of Stucents Scoring Above 3 By Gender Per 1,000 Students**

		98	99	00
Score Above 3 per 1,000	Male	6.4	6.5	6.4
	Female	2.7	3.9	5.0



♦ **AP Science - Number of Students Scoring Above 3 By Race/Ethnicity Per 1,000 Students** [*1]

	98	99	00
AI/AN	0.0	1,000.0	0.0
A/PI	0.0	18.5	13.9
B/AA	0.7	0.2	0.7
H/L	26.3	0.0	0.0
W	61.9	77.7	84.0



*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

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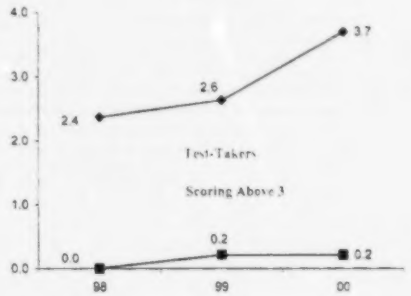
AP Computer Science Test Result Trends

♦ AP Computer Science (Computer Science A & AB)

♦ AP Computer Science - Total Number of Tests Taken

		98	99	00
	Num of 11th & 12th students	4,643	4,561	4,594
Tests Taken	Comp. Sci A	9	12	16
	Comp. Sci. AB	2	0	1
	Total	11	12	17
	Num of tests taken/1,000 stu.	2.4	2.6	3.7
	Scoring Above 3	0	1	1
	Num of Above 3/ 1,000 students	0.0	0.2	0.2

Number of tests taken and scoring above 3 per 1,000 students

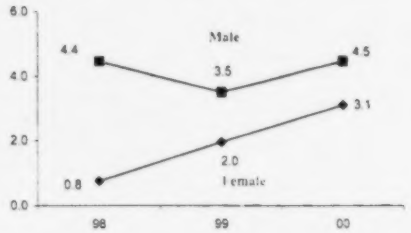


♦ AP Computer Science - Number of Tests Taken By Gender

Per 1,000 Students

Tests Taken per 1,000		98	99	00
	Male	4.4	3.5	4.5
	Female	0.8	2.0	3.1

Number of tests taken per 1,000 students by Gender

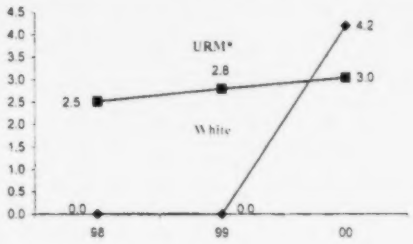


♦ AP Computer Science - Number of Tests Taken By Race/Ethnicity

Per 1,000 Students [*1]

	98	99	00
AI/AN	0.0	0.0	0.0
A/PI	0.0	0.0	0.0
B/AA	2.5	2.8	3.1
H/L	0.0	0.0	0.0
W	0.0	0.0	4.2

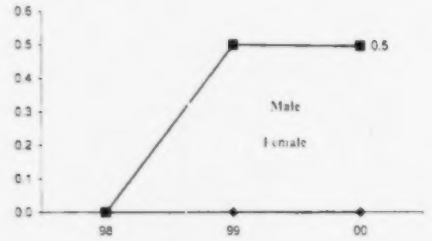
Number of tests taken per 1,000 students by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[*1] "Other" category not presented

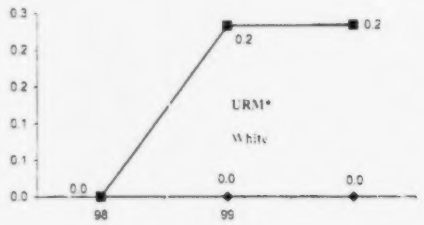
♦ AP Computer Science - Number of Students Scoring Above 3 By Gender per 1,000 Students

Score Above 3 per 1,000		98	99	00
	Male	0.0	0.5	0.5
	Female	0.0	0.0	0.0



♦ AP Computer Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [*1]

	98	99	00
AI/AN	0.0	0.0	0.0
A/PI	0.0	0.0	0.0
B/AA	0.0	0.2	0.2
H/L	0.0	0.0	0.0
W	0.0	0.0	0.0

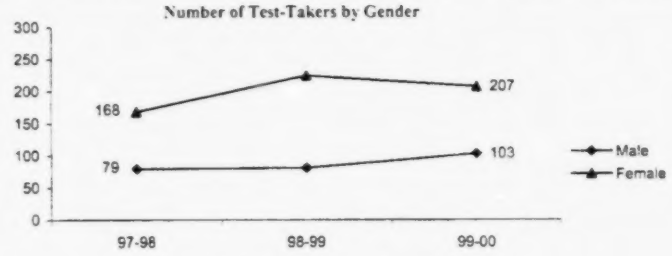


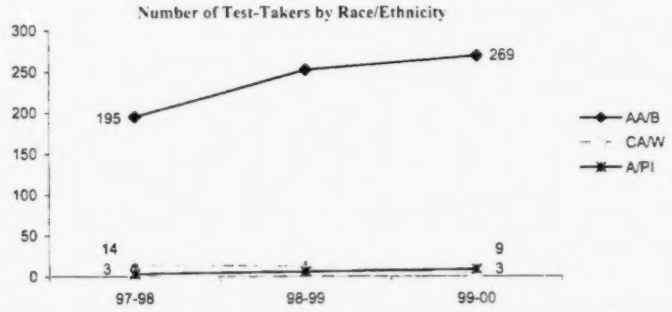
*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

ACT Test-Takers

♦ Number of Test-Takers

		97-98	98-99	99-00
Total Num of 12th Grade Students		2,122	2,076	2,082
Test-Takers		247	306	310
Num of Test-Takers/1,000 Stu		116	147	149
Gender	Male	79	81	103
	Female	168	224	207
Race/Ethnicity	AA/B	195	252	269
	AI/AN *1	2	0	0
	CA/W	14	13	3
	MA/C *1	0	1	1
	A/PI	3	6	9
	PR/H *1	1	0	0

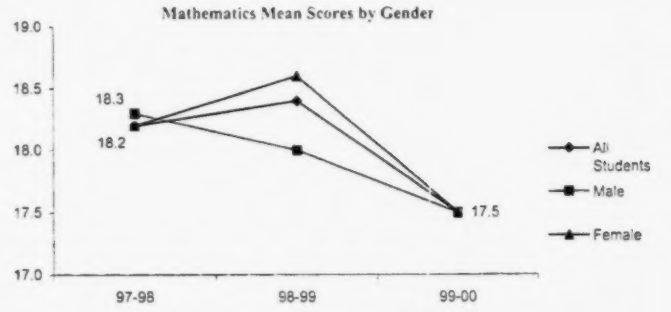


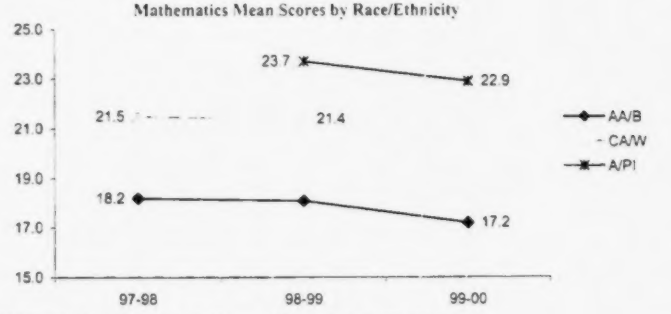


ACT Mathematics Scores

♦ Mathematics - Mean Score Trends

		97-98	98-99	99-00
All Students		18.2	18.4	17.5
Gender	Male	18.3	18.0	17.5
	Female	18.2	18.6	17.5
Race/Ethnicity	AA/B	18.2	18.1	17.2
	AI/AN *2	-	-	-
	CA/W	21.5	21.4	-
	MA/C *2	-	-	-
	A/PI	-	23.7	22.9
	PR/H *2	-	-	-





AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.

*1 Number of Test-Takers less than 5 not presented on graph

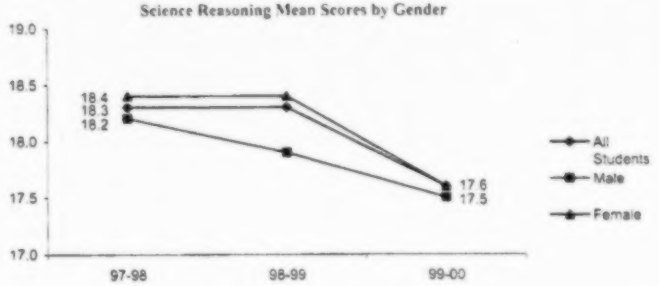
*2 Mean scores not presented for sample size less than 5

ACT Science Reasoning Scores

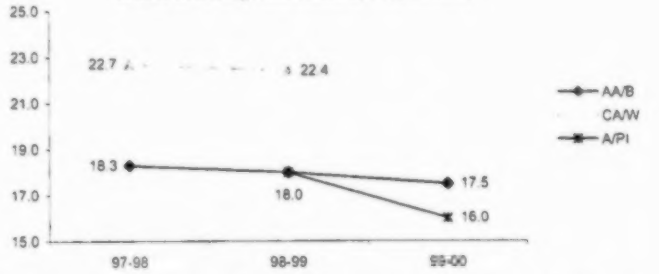
♦ **Science Reasoning - Mean Score Trends**

		97-98	98-99	99-00
All Students		18.3	18.3	17.6
Gender	Male	18.2	17.9	17.5
	Female	18.4	18.4	17.6
Race/Ethnicity	AA/B	18.3	18.0	17.5
	AI/AN [*1]	-	-	-
	CA/W	22.7	22.4	-
	AI/AN [*1]	-	-	-
	A/PI	-	18.0	16.0
	PR/H [*1]	-	-	-

Science Reasoning Mean Scores by Gender



Science Reasoning Mean Scores by Race/Ethnicity



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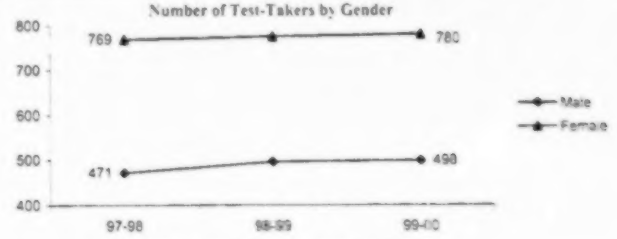
[*1] Mean scores not presented for sample size less than 5

SAT Test-Takers

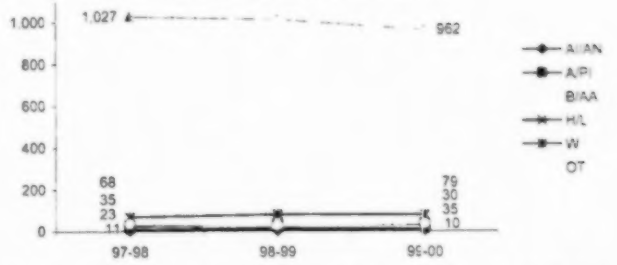
♦ **Number of Test-Takers**

		97-98	98-99	99-00
Total Num of 12th Grade Students		2,122	2,076	2,082
Test-Takers		1,240	994	1,278
Num of Test-Takers/1,000 Stu		584	479	614
Gender	Male	471	496	498
	Female	769	776	780
Race/Ethnicity	AI/AN	5	5	6
	A/PI	23	28	30
	B/AA	1,027	1,013	962
	H/L	11	16	10
	W	68	81	79
	OT	35	29	35

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

SAT Mathematics Scores

♦ **Mathematics - Mean Score Trends**

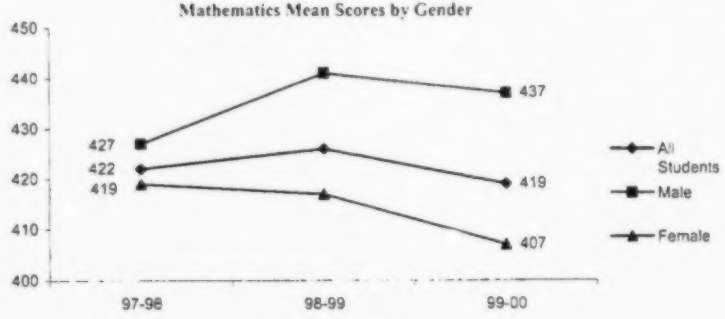
		97-98	98-99	99-00
All Students		422	426	419
Gender	Male	427	441	437
	Female	419	417	407
Race/Ethnicity	AI/AN	386	398	435
	A/PI	480	468	503
	B/AA	415	412	407
	H/L	417	420	386
	W	535	572	558
	OT	449	472	437

SAT Verbal Scores

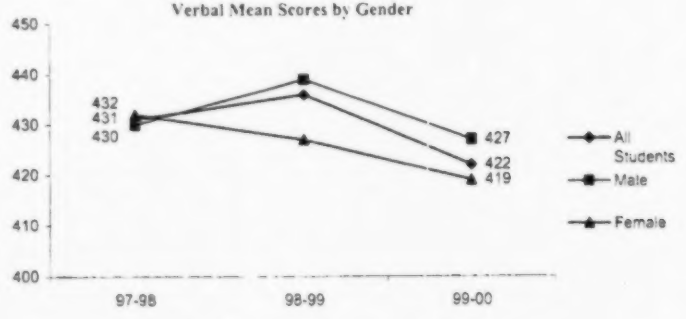
♦ **Verbal - Mean Score Trends**

		97-98	98-99	99-00
All Students		431	436	422
Gender	Male	430	439	427
	Female	432	427	419
Race/Ethnicity	AI/AN	382	416	387
	A/PI	399	356	350
	B/AA	424	424	413
	H/L	418	440	410
	W	563	585	581
	OT	475	382	455

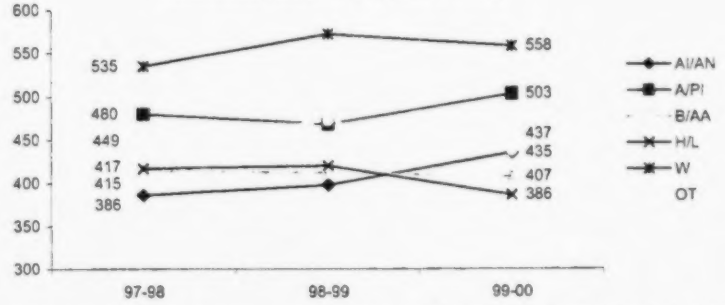
Mathematics Mean Scores by Gender



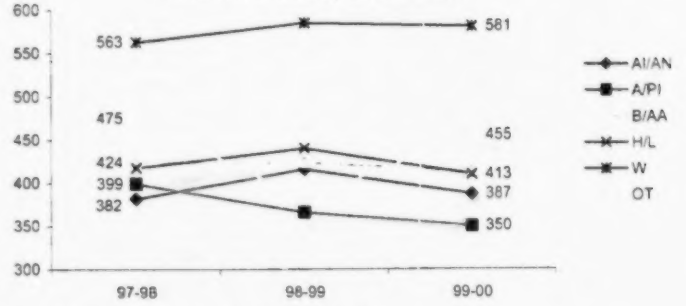
Verbal Mean Scores by Gender



Mathematics Mean Scores by Race/Ethnicity



Verbal Mean Scores by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African Amencan H/L: Hispanic or Latino W: White OT: Others

Atlanta USI

Cohort/Scale-Up Approach

	98-99	99-00
Number of District Schools*:	103	103
USI Schools**:	15	52
% Schools:	15%	50%

*Core Data Elements 2000-2001; **K-1 2000

Italics: Data Imputed

Primary Decision Making Body

Standards Curriculum	District
Curriculum/TextBook Adoption	District
Student Assessment	State
Professional Development	District
Resources	District
Teacher Hiring	District
Teacher Contracts	District
Certification & Re-certification	State
Graduation Requirements	State
School-Based Management?	Yes

Policies Promoting Equal Access by All Students in High Quality Education

Student Tracking:
- Tracking prohibited

Criteria for Entry into High Level Mathematics and Science Courses:
- Prerequisites must be completed successfully

Availability of High Level Courses:
- Each school is expected to have at least one advanced level course offering. The availability of courses depends on each school's master schedule and student population

Special Education and Bilingual Students:
- These students receive individualized curriculum and innstruction. There is an extended year program for students with disabilities (2000-01).

Others:
- Eighth graders who take Algebra I and Euclidean Geometry and successfully complete these courses with a garde of "C" or higher can earn carnegie units that are applicable towards
- Promotion at the elementary school includes mastery of the school system's content and performance standards in mathematics and language arts
- Promotion to the next grade at middle school depends on the student passing four courses that include mathematics and language arts
- Homework Hotline sponsored by teachers

Policies Impacting the Enrollment of Students in Challenging Math and Science Courses

Attendance:
- Descriptor code OCGA: Students are expected to be present at school and to arrive and depart on time in accordance with the provisions of the Georgia Compulsory Attendance Law

Guidance:

Student Support Systems:
- Non-graded/Transitional program; Extended School year for Students with Disabilities, Pre-Kindergarten Program, Elementary and Middle School Xandru Program, Elementary Literacy Village, Middle School Literacy Algebra Academy, Middle School Algebra Camp, Middle and High Schools Transition Programs, High School Academy, High School Mathematics and Science Enrichment Academy, Parenting Workshop and Students performing in lowest quartile on standardized tests in math in benchmark grades (3,8) get targeted instruction assistance.

Policies Relevant to Curriculum

Framework:
- State framework

Curricula:
- Georgia Quality Core Curriculum (QCC)

Curricula Materials:

New Courses Added as a Result of USI:
- Environmental Science (Reg. & AP); Increase
- Contextual Physics and Principles of Technology

Standards-based Curriculum and Instruction

Standards Adopted:
- Share standard with Georgia QCC: Enhanced QCC Standard for Algebra I and Pre-Albegra

Primary Instructional Strategies:
- E: science emphases Kit-based Essential Labs for K-8 mathematics in progress
- E: Manipulative materials
- E, M, H: Experimentation
- M: Manipulative materials in mathematics and technology

% of Students Experiencing Standards-based Mathematics Curriculums:	E: 100%
	M: 100%
	H: 100%
% of Students Experiencing Standards-based Science Curriculums:	E: 100%
	M: 100%
	H: 100%

Policies Relevant to Teacher Qualifications

Certification:
- Teachers must earn 10 SDU or the equivalent in college course and take and pass away required tests for re-certification.+

Requirement & Hiring Practices:
- Teacher profile used in recruitment

E: Elementary School M: Middle School H: High School

Professional Advancement & Leadership Training:

Contract Requirements:
- Must obtain certification within 1-2 years of hiring.

Professional Development Policies and Practices

Time Required or Supported:
- Minimum of 20 clock hours each calendar year; 50 hours for recertification

Financial Resources Provided:

Alignment to Student Standards:
- Aligned to national, state, and local standards and assessment

Measurement of Impact:
- Sustained follow-up for each course
- Baseline data gathered
- Model Teacher Leaders assist with follow-up and delivery of on site staff development

Type and Amount Received by Average Math/Science Teacher:
- Elementary Science Education Partners training on kits in science
- Training for SKIL teachers for each school
- Two days per kit, three kits per grade level
- Training for Model Teacher Leaders: content pedagogy, leadership, change and communications (100 hours)
- Standards-based math courses aligned to the curriculum
- 30 -100 hour workshops or courses (3-10 ten-hour staff development units)

Evaluation Instruments:
- Workshop assessment instruments

Professional Development Alignment to Content Standards Measures:
- All professional development courses are aligned to standards

Teacher's Instructional Practices Evaluation:
- Observations by principals and assistant principals
- At high school level department heads observe

Impact on Student Achievement:
- Analysis of test data provides content focus for professional development as well as assess instructional practices.

Policies Relevant to Standards-based Assessments

Extent to Which Assessments are Aligned to District Standards and Curriculums:
- SAT-9 is 85% aligned
- CRC Tests are 100% aligned
- Georgia High School Graduation Tests are 100% aligned; Algebra I Cluster Tests 100% aligned; Third Grade Achievement Test 100% aligned

Methods stakeholders are informed of goals, objectives and accomplishments of assessment program:
- Student achievement goals communicated to students through their school staff
- Report cards
- Letters
- Workshops
- News media
- School Board meetings
- Individual test reports
- Parent Reports
- Permanent record folders
- PTA Meetings

USI Leadership, Governance, and Management

Superintendent:
- Dr. Bevely Hall serves as PI/Superintendent
- Ms. Kathy Augustine serves as Co-PI/Deputy Superintendent
- Dr. Paul Ohme serves as Co-PI
- Mr. Adrian Epps serves as Project Director

USI Office:
- Ms. Cynthia Skipper serves as Research Associate

Community Key Personnel:

Teacher Leaders:
- Model Teacher Leaders

Partnerships

Other Key Initiatives:
- North Middle Grades Endorsement
- Elementary Science Education Partners (ESEP)
  - SECME
- Fernbank Science Museum
- Title I; River Deep; I Can Learn Math
- Title II/Eisenhower
- Georgia Tech Tutorials; Park City Institute; Spellman College
- Ben Carson Academy
- Hewlett Packard;Riverdeep; I Can Learn; Move It Math--Project Grad
- Andover Dartmouth Math Bowl
- Science and Mathematics Congress
- Science Cluster Centers
- Ecology Project
- Computer Science Upgrade
- High Schools That Work
- Georgia Industrial Fellowships for Teachers
- Zoo Atlanta
- Mathcounts

Other Key Initiatives (cont.):

- Young Explorers
- Antioch Baptist
- Motor Sports AJC
- Algebra Camp
- Park City Institute

Community Stakeholders:

- Atlanta Council of PTAs
- Apple Corps, Inc

Higher Education:

- Morehouse College: ICEMS- an initiative that fosters excellence in engineering, mathematics and sciences)
- Spelman College
- Emory University: Elementary Science Education Partners and Health Guides; Clark Atlanta University; Kennesaw State University - Middle Grades
- Gender Equity
- Georgia Institute of Technology- SECEME- a mathematics, science, and engineering initiative

Business and

- Metro-Atlanta Chamber of Commerce
- Hewlett Packard
- Texas
- Riverdeep

Other Partnerships:

- NASA; JRL Interprises - I Can Learn

Policy Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	• School Improvement policy
	• Policy restricting class size in K-G3 to 1:21; G4-5:1:26, G6-8: 1:21and G9-12: 1:23
	• Provision of special programs for students with limited English proficiency
	• Mandatory attendance of at least 5 class periods a day for high school students
	• Requirement that homeworks are used as part of instruction
	• Specification that students master skills in the Georgia Quality Core Curriculum
1998-99	• Change in high school graduation requirement: 3 to 4 years of mathematics
1999-00	• No policy change
2000-01	• 4 years of mathematics and 4 years of science required for graduation

Curriculum and Instruction Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	• Curriculum and instruction correlated to the state's Quality Core Curriculum (QCC) in science and mathematics
	• Instruction in mathematics and science emphasizes active engagement in hands-on inquiry-based science activities and problem solving mathematics activities
1998-99	• Implementation of a standards-based curriculum which focuses on inquiry-based hands-on science and problem solving in mathematics
1999-00	• No changes reported

Professional Development Policy and Program Changes to Support Teachers During USI Implementation

School Year	Policy Implemented
Before USI	◦All teachers must engage in 20 hours of professional development that included 5 hours of technology training ◦1-3 hours staff development courses provided by classroom teachers, college professors and educators from other districts ◦Instructors designed courses based on school or system request ◦Primary incentive for teachers to take the courses included stipends or the need for re-certification ◦Courses not aligned to state or local curriculum ◦Courses not aligned to state or local curriculum
1998-99	◦Professional development must be in areas of reading (K-G3), mathematics, science and technology ◦Increase in content-based professional development courses for mathematics and science teachers ◦Review of structure, content, and extent of alignment to standards of existing math and science workshops. Result of review was the development of syllabi for professional development courses that were aligned to the curriculum, identification of targets ◦Request for Assistance was sent to universities to design standards-based staff development courses. It was required that each course have an instructor's manual and syllabus. The courses were delivered this summer and during the academic year ◦Model Teacher Leaders have been trained to help facilitate the instruction of courses offered by the universities ◦The USI staff, including the math and science coordinators received staff development ◦The USI business partners (Atlanta Partners for Education, IBM, and Atlanta Chamber of Commerce) sponsored a half-day workshop of managing change; and principals received a two-day workshop on their roles in leading systemic reform ◦Parent workshops were offered in six schools at tenth Annual Parenting Conference
1999-00	
2000-01	◦All staff development is aligned to district standards and are linked to form a uniform program ◦50 clock hours of 5 SDUs are required for re-certification.

Standards-based Assessment System Changes During USI Implementation

School Year	Policy Implemented
Before USI	◦Student performance has been assessed through State and system wide tests. State and system wide tests include: • Georgia High School Graduation Tests in Mathematics and Science (GHSGT) • Preliminary Scholastic Assessment Test (PSAT) for G11 • Scholastic Assessment Test (SAT) for seniors • Algebra Tests • Iowa Test of Basic Skills in Mathematics (G1-8) and Science (G33,5,8) • Tests of Achievement and Proficiency in Mathematics (G9,10) All state required tests are aligned to the state Quality Core Curriculum
1998-99	◦No changes reported
1999-00	
2000-01	◦SAT-9 ◦3rd Grade Achievement tests ◦Advanced placement tests; Standards-Based Ellementary Science Kits Pre and Post Tests; CRCT for all grades 1-8

School District Progress Report

March 2002

Jacksonville

Urban School Key Indicators of Science and Mathematics Education: 2001

BEST COPY AVAILABLE

Jacksonville USI

Project Information

USI Project Title : Jacksonville USI
NSF Grant No: HRD-9727644
Cohort: 96 (Sept. 97 - Aug. 02)
USI Web Site:

• PI, CO-PI and PD

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• USI Data Manager

Dr. J. Logan Cross
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• Mailing Address

Duval County Public Schools
1701 Prudential Drive
Jacksonville, FL 32207

• USI Schools Math & Sci. Teachers and Students

99-00	Schools	Teachers	Students
K-G5 (Elementary)	56	1,471	61,601
G6-8 (Middle)	24	552	30,250
G9-12 (High)	8	443	26,279
Total	88	2,466	118,130

Project Summary

The Jacksonville Urban Systemic Initiative (JUSI) serves one large school district with 163 schools, over 7,000 teachers, and approximately 127,404 students. There are four post-secondary institutions in the district that work closely with the JUSI in providing professional development for teachers. The JUSI provides professional development services via a team of resource teachers and individual lead teachers based in schools. These individuals work with classroom teachers on individual and group bases through workshops and direct classroom assistance. Schools have been incorporated into the initiative in cohorts, with a new cohort entering the program each year. Since its inception, the JUSI has served the majority of teachers in the district yielding a notable increase in the number and percent of teachers who received 60 or more hours of professional development during a single year. The effort has translated into pronounced enrollment increases in mathematics, science, and technology courses by students from almost all ethnicity gender groups. The initiative has sparked an increased enrollment, improved course completion rates, and improved performance on measures of achievement. The JUSI has driven policy changes that pave the way for enhanced mathematics, science, and technology education. The JUSI has actively pursued the convergence of resources, particularly among business and community leaders, to establish a support base for continuing the initiative for years to come.

Project Goals

To provide support services to teachers to improve the quality of science and mathematics instruction including standards-based curricula, research-validated instructional materials, professional development, and monitoring of student achievement.

To increase the mathematics and science achievement of all students and to reduce the achievement gap between majority and minority student populations.

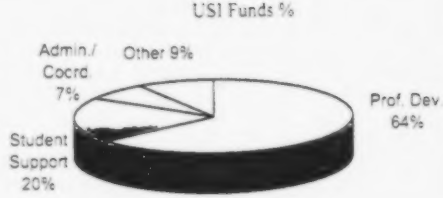
Selected School Indicators (District Average)

	97-98	99-00	Change
%Special Ed.	22.7%	16.0%	-6.7 PP
%LEP	1.2%	1.0%	-0.2 PP
%FRL	42.1%	40.8%	-1.3 PP
%Daily Ave. Atten.			
%Average Retained		14.3%	
%Drop-Out		8.5%	
%Mobility	40.4%	39.5%	-0.9 PP
Per Pupil Cost ($)	$4,312	$5,338	+19.2%
Num of Students Per Computer		4	
% Classrooms Internet Access			
Average Class Size	26	28	+7.1%

PP: Percentage Points (-) Data Missing

District and USI Fund Utilization (SY 1999-00)

	District	USI
Prof. Dev.	11%	64%
Student Support	17%	20%
Admin./Coord.	1%	7%
Other	71%	9%
Total	100%	100%



Student Demographics (SY 1999-00)

District Total: 123,220
USI Schools:

♦ Race/Ethnicity

	97-98	99-00	%	Change
Ame. Ind./Ala. Nat.	180	189	0.2%	+5.0%
Asian/P. Islander	3,361	3,348	2.7%	-0.4%
Black	50,377	51,859	42.1%	+2.9%
Hispanic	3,698	4,206	3.4%	+13.7%
White	65,339	62,067	50.4%	-5.0%
Other	819	1,551	1.3%	+89.4%
Total	123,774	123,220		-0.4%
URM Total	54,255	56,254	45.7%	+3.7%

URM: Underrepresented Minority students.

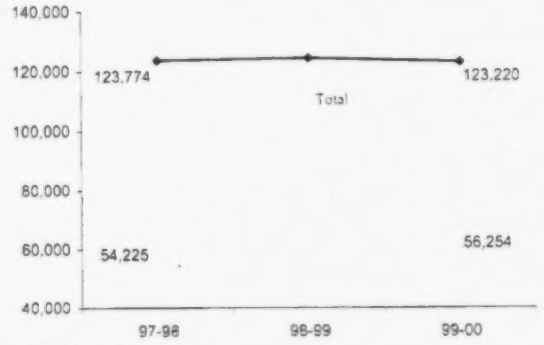
♦ Gender

Male	63,229	62,872	51.0%	-0.6%
Female	60,545	60,348	49.0%	-0.3%

♦ Grade

K-G5	63,212	61,947	50.3%	-2.0%
G6-8	29,740	29,753	24.1%	+0.0%
G9-12	30,822	31,520	25.6%	+2.3%
Ungraded	0	0	0.0%	

♦ District-Wide Student Demographic Trends



(-) Data Missing

12th Grade Graduates

	97-98	99-00	Change
Total 12th Grade	5,282	5,116	-3%
Earned a Diploma	•	2,916	.
% Earned Diploma	•	57%	.

% Earned Diploma

College Entrance

	97-98	99-00	Change
2 Yr College	1,652	1,362	-18%
4 Yr College	1,893	1,535	-19%
Other Post-Secon.	99	85	-14%
Total C. E.	3,644	2,982	-18%
% C. E./Earned Dip.	69%	58%	-11 PP

% College Entrance

High School Graduation Requirements SY 99-00

- Mathematics
  - One credit in Algebra I and Geometry. Students must obtain a total of four credits of Math.
- Science
  - Three credits from courses in Biology, Chemistry
  - and Physics (or Physical Science), and Earth/Space Science.
  - A fourth credit in either Science, Math, or Advanced Technology.

PP: Percentage Points

Math and Science Teachers & Certification

♦ Mathematics (G6-12)

		98-99	99-00	Change
G6-8	Teachers	332	373	+12%
	Certified	•	•	•
	% Cert.	•	•	•
G9-12	Teachers	257	391	+52%
	Certified	•	•	•
	% Cert.	•	•	•
Total	Teachers	589	764	+30%
	Certified	•	•	•
	% Cert.	•	•	•

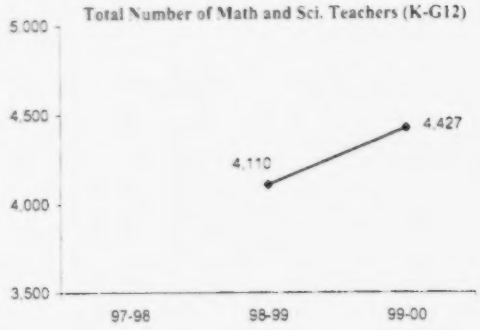
♦ Science (G6-12)

		98-99	99-00	Change
G6-8	Teachers	307	346	+13%
	Certified	•	•	•
	% Cert.	•	•	•
G9-12	Teachers	236	371	+57%
	Certified	•	•	•
	% Cert.	•	•	•
Total	Teachers	543	717	+32%
	Certified	•	•	•
	% Cert.	•	•	•

♦ Math and Science (K-G5)

		98-99	99-00	Change
K-G5	Teachers	2,978	2,946	-1%

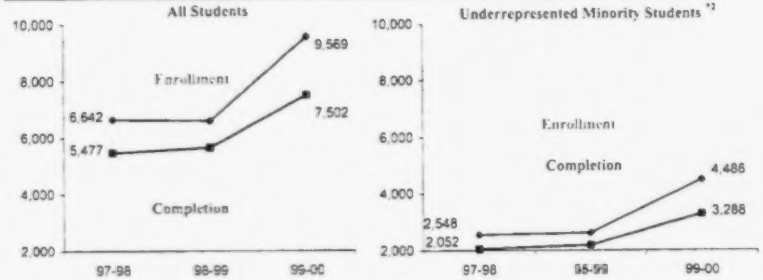
Total Number of Math and Sci. Teachers (K-G12)



Mathematics and Science Enrollment & Completion Trends/ All vs. URM

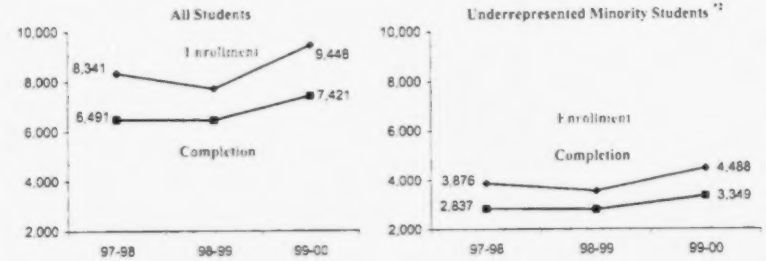
G 9-12 Mathematics Gate-Keeping Courses (Algebra II, Geo., and Calculus)

		97-98	98-99	99-00
Total G 9-12 Population		30,822	31,077	31,520
All Students	Enrollment	6,642	6,585	9,569
	Completion *1	5,477	5,652	7,502
	% Enroll/ G9-12	22%	21%	30%
URM *2	Enrollment	2,548	2,616	4,486
	Completion *1	2,052	2,179	3,288
	% Enroll/ G9-12	19%	19%	32%



G 9-12 Science Gate-Keeping Courses (Biology 1, Chem. 1, and Physics 1)

		97-98	98-99	99-00
Total G 9-12 Population		30,822	31,077	31,520
All Students	Enrollment	8,341	7,727	9,448
	Completion *1	6,491	6,455	7,421
	% Enroll/ G9-12	27%	25%	30%
URM *2	Enrollment	3,876	3,557	4,488
	Completion *1	2,837	2,801	3,349
	% Enroll/ G9-12	29%	26%	32%



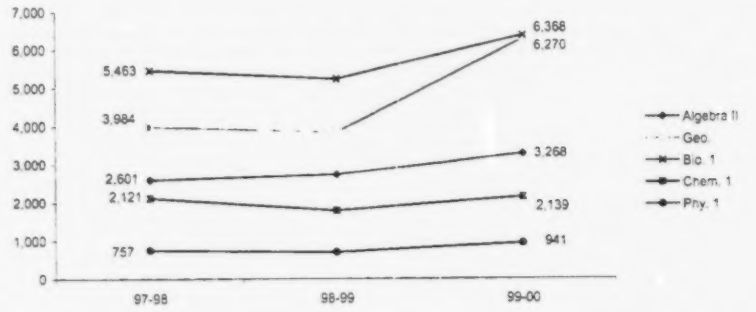
*1 Successful completion: grade 'D' or above.

*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Mathematics and Science Enrollment & Completion Trends By Subject

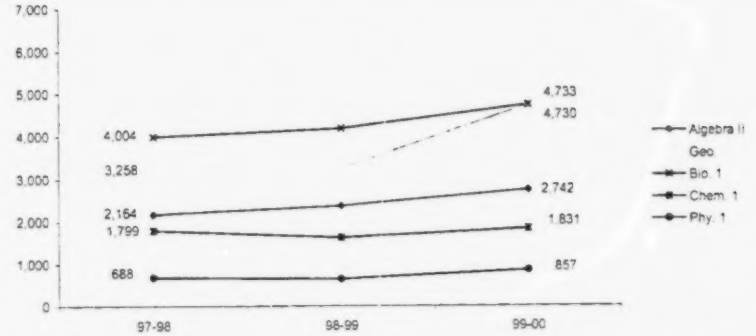
G 9-12 Course Enrollment (All Students)

	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
97-98	2,601	3,984	57	6,642	5,463	2,121	757	8,341
98-99	2,726	3,836	23	6,585	5,235	1,791	701	7,727
99-00	3,268	6,270	31	9,569	6,368	2,139	941	9,448



G 9-12 Course Completion *1 (All Students)

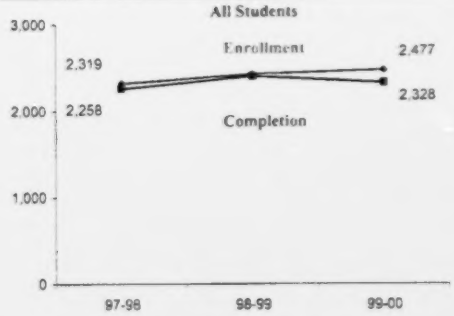
	Algebra II	Geo.	Calculus *3	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
97-98	2,164	3,258	55	5,477	4,004	1,799	688	6,491
98-99	2,371	3,258	23	5,652	4,186	1,621	648	6,455
99-00	2,742	4,730	30	7,502	4,733	1,831	857	7,421

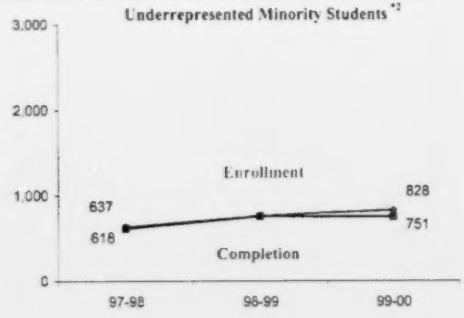


*3 Calculus not represented on graph.

Algebra I or Above in 8th Grade Enrollment & Completion Trends/ All vs. URM

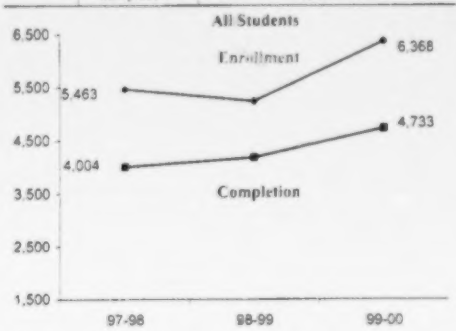
		97-98	98-99	99-00
Total G 8 Population		9,180	9,365	9,311
All Students	Enrollment	2,319	2,426	2,477
	Completion *1	2,258	2,403	2,328
	% Enroll/ G8	25%	26%	27%
URM *2	Enrollment	637	764	828
	Completion *1	618	757	751
	% Enroll/ G8	16%	18%	19%

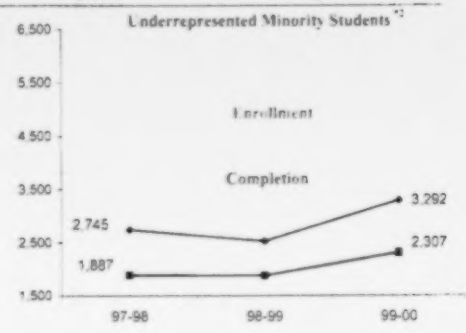




Biology Enrollment & Completion Trends/ All vs. URM

		97-98	98-99	99-00
All Students	Enrollment	5,463	5,235	6,368
	Completion *1	4,004	4,186	4,733
URM *2	Enrollment	2,745	2,525	3,292
	Completion *1	1,887	1,880	2,307





*1 Successful completion: grade 'D' or above.

*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Professional Development Participation of Teachers Teaching Mathematics and/or Science

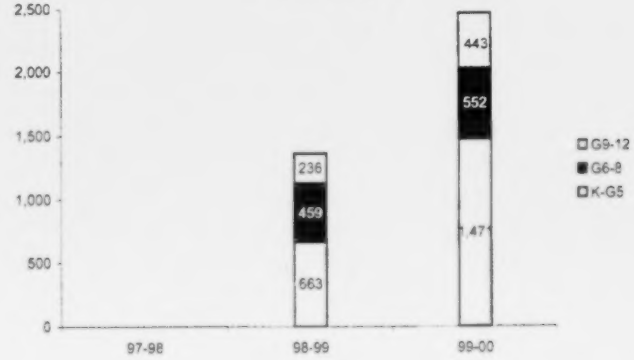
Total Number Teachers by Subject (G6-12)

	97-98	98-99	99-00
Mathematics	NA	589	532
Science	NA	543	463

Total Number of Teachers Participating in PD by Grade Level

Teachers	97-98	98-99	99-00
Total K-G5	NA	2,978	2,946
# K-G5 Participated	NA	663	1,471
% K-G5 Participated	NA	22%	50%
Total G6-8	NA	639	552
# G6-8 Participated	NA	459	552
% G6-8 Participated	NA	72%	100%
Total G9-12	NA	493	443
# G9-12 Participated	NA	236	443
% G9-12 Participated	NA	48%	100%

Number of Teachers Participating in Professional Development by Grade Level Taught



Number of Teachers by Duration of Professional Development

	97-98	98-99	99-00
1-59 Hours		1,276	2,175
60-119 Hours		63	243
120-200 Hours		16	42
More than 200 Hours		3	6

NA: Not Applicable

District Assessment Test Administered

♦ **Mathematics**

	97-98	98-99	99-00
Test Name			
Scoring			
Grade			
Type			

♦ **Science**

	97-98	98-99	99-00
Test Name	Terra Nova	Terra Nova	SAT 9
Scoring	PC	PC	PC
Grade	5,8,10	5,8,10	5,8,10
Type	NRT	NRT	NRT

State Assessment Test Administered

♦ **Mathematics**

	97-98	98-99	99-00
Test Name	FCAT	FCAT	FCAT
Scoring	SS	SS	SS
Grade	5,8,10	5,8,10	5,8,10
Type	CRT	CRT	CRT

♦ **Science**

	97-98	98-99	99-00
Test Name			
Scoring			
Grade			
Type			

*FCAT: Florida Comprehensive Assessment Test

*SAT 9: Stanford Achievement Test - 9th Edition

PC: Percentile SN: Stanine PL: Performance Level

PF: Pass/Fail SS: Scaled Score OT: Other

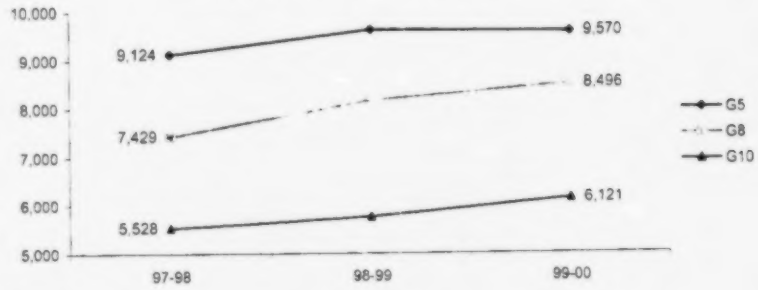
NRT: Norm-Referenced Test CRT: Criterion-Referenced Test

State Assessment Test-Taker Trends - FCAT

♦ **Mathematics (Test Takers)**

# of Test Takers	97-98	98-99	99-00
Grade 5	9,124	9,617	9,570
Grade 8	7,429	8,157	8,496
Grade 10	5,528	5,749	6,121

Total number of students taking test

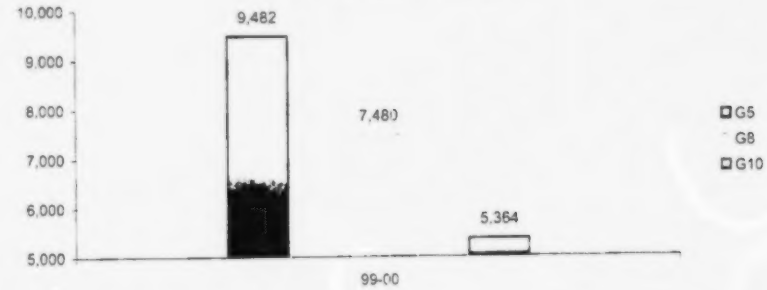


District Assessment Test-Taker Trends - SAT 9

♦ **Science (Test Takers)**

# of Test Takers	97-98	98-99	99-00
Grade 5			9,482
Grade 8			7,480
Grade 10			5,364

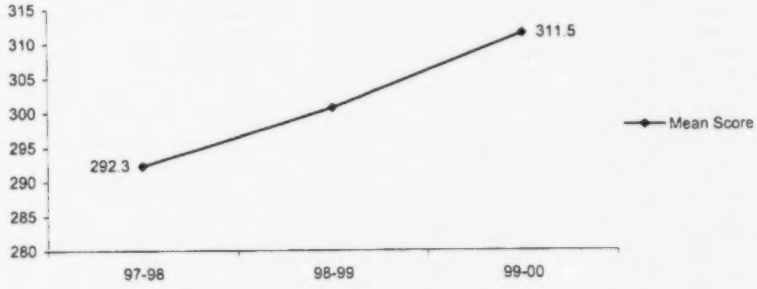
Total number of students taking test



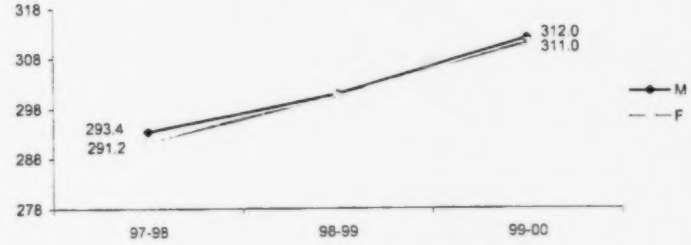
State Assessment Test Result Trends - FCAT Mathematics

♦ **Grade 5**

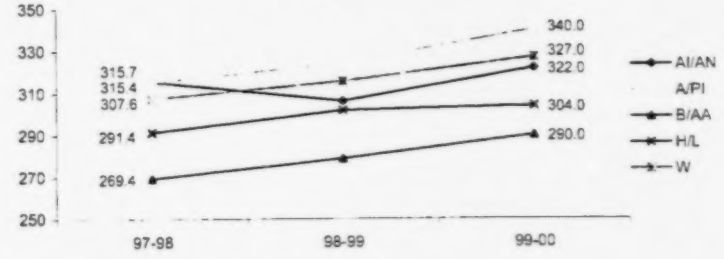
Score	97-98	98-99	99-00
Mean Score	292.3	300.7	311.5
Total num of students	9,124	9,617	9,570



Mean Scores by Gender



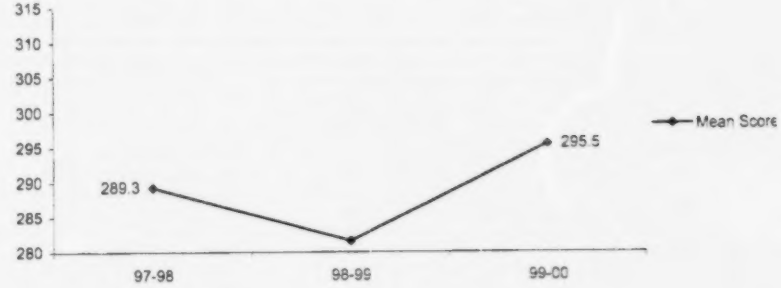
Mean Scores by Race/Ethnicity



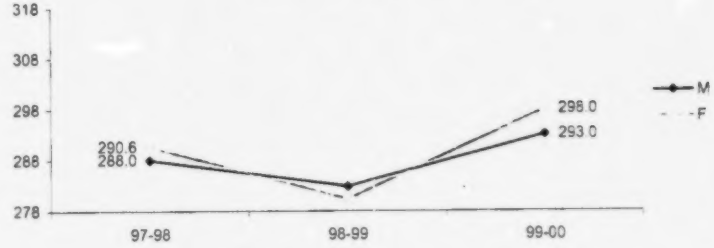
State Assessment Test Result Trends - FCAT Mathematics

♦ **Grade 8**

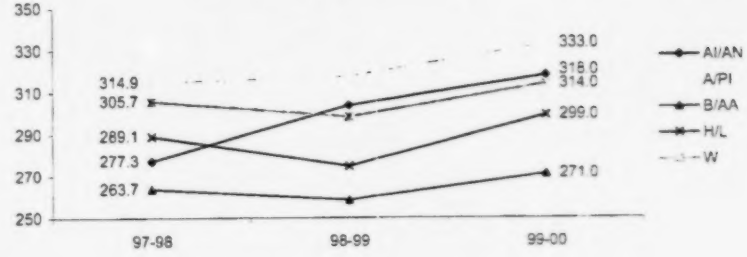
Score	97-98	98-99	99-00
Mean Score	289.3	281.6	295.5
Total num of students	7,429	8,157	8,496



Mean Scores by Gender



Mean Scores by Race/Ethnicity



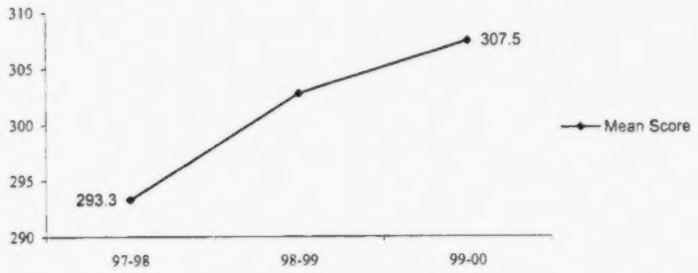
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

Jacksonville USI

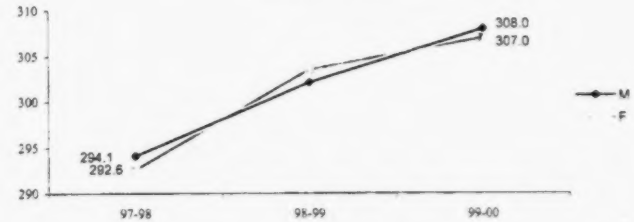
State Assessment Test Result Trends - FCAT Mathematics

♦ **Grade 10**

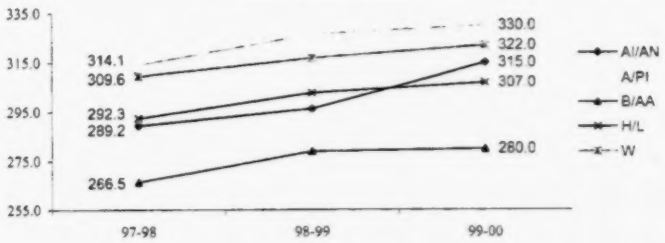
Score	97-98	98-99	99-00
Mean Score	293.3	302.8	307.5
Total num of students	5,528	5,749	6,121



Mean Scores by Gender



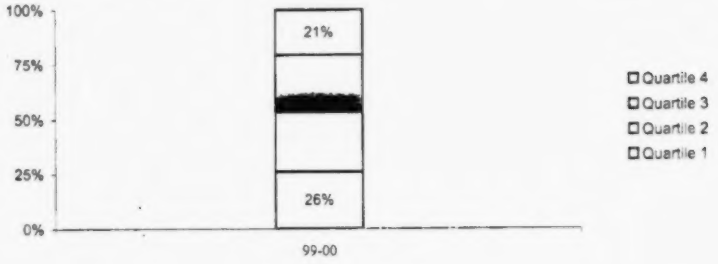
Mean Scores by Race/Ethnicity



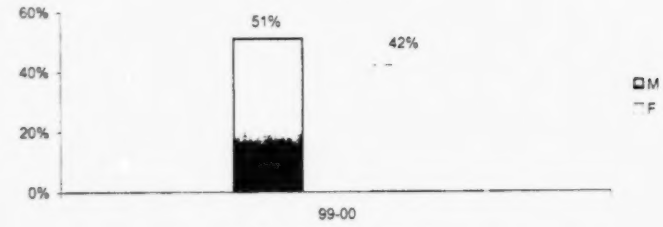
District Assessment Test Result Trends - SAT 9

♦ **Grade 5**

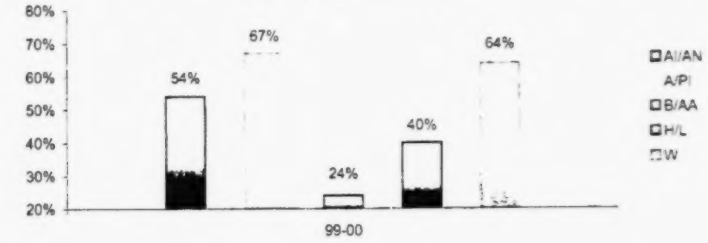
Quartile	97-98	98-99	99-00
Quartile 4			21%
Quartile 3			26%
Quartile 2			27%
Quartile 1			26%
Total num of students			9,482



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

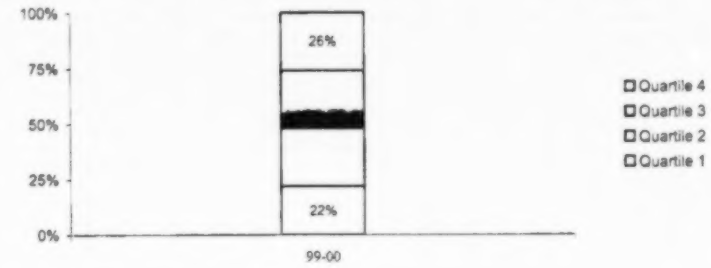
% Passing defined as Quartile 4 + Quartile 3

420

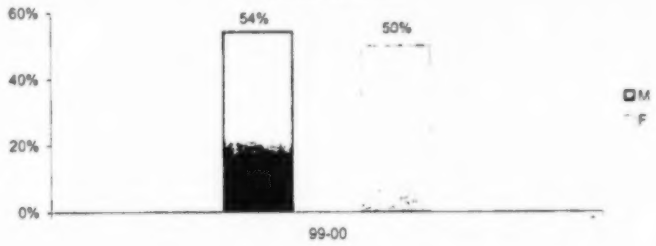
District Assessment Test Result Trends - SAT 9

♦ **Grade 8**

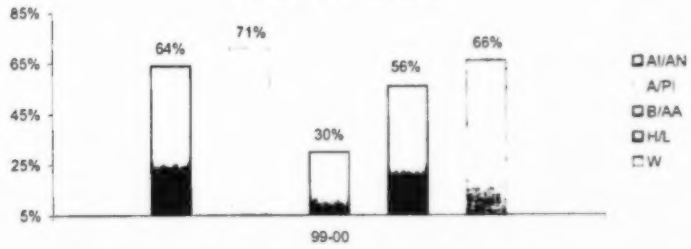
Quartile	97-98	98-99	99-00
Quartile 4			26%
Quartile 3			26%
Quartile 2			26%
Quartile 1			22%
Total num of students			7,480



% Passing by Gender



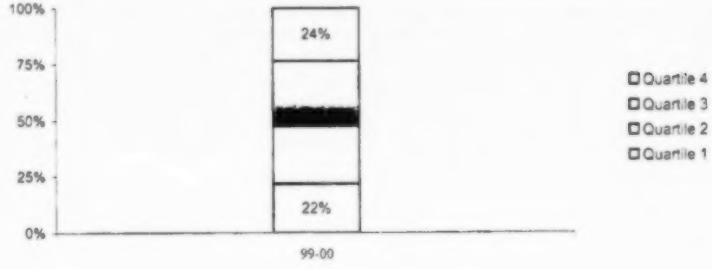
% Passing by Race/Ethnicity



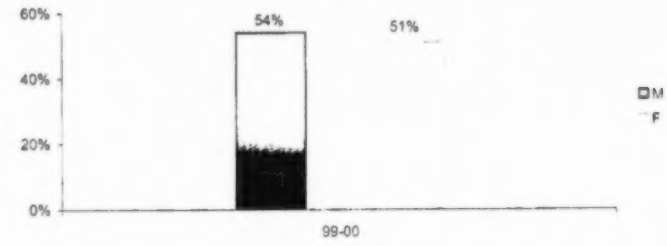
District Assessment Test Result Trends - SAT 9

♦ **Grade 10**

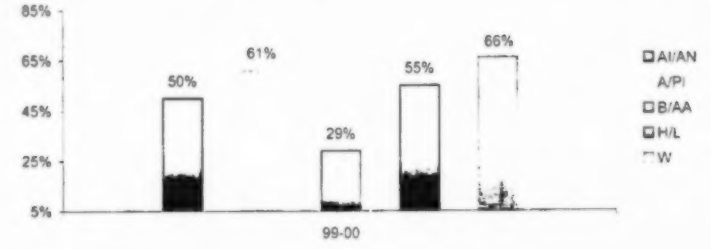
Quartile	97-98	98-99	99-00
Quartile 4			24%
Quartile 3			29%
Quartile 2			26%
Quartile 1			22%
Total num of students			5,364



% Passing by Gender



% Passing by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

% Passing defined as Top Quartile + 2nd Quartile

AP Mathematics Test Result Trends

♦ AP Mathematics - Total Number of Tests Taken

		98	99	00
Total num of 11th & 12th students		11,935	11,766	11,529
Tests Taken	Calc AB	289	278	271
	Calc BC	16	12	46
	Statistics	30	28	73
	Total	**335**	**318**	**390**
Num of tests-taken/1,000 stu.		28.1	27.0	33.8
Scoring Above 3		169	147	212
Num of Above 3/ 1,000 students		14.2	12.5	18.4

♦ AP Mathematics - Number of Tests Taken By Gender

Per 1,000 Students

		98	99	00
Tests Taken per 1,000	Male	28.9	29.7	36.5
	Female	27.3	24.6	31.5

♦ AP Mathematics - Number of Tests Taken By Race/Ethnicity

Per 1,000 Students [*1]

	98	99	00
AI/AN	66.7	100.0	136.4
A/PI	68.9	75.8	101.8
B/AA	9.2	9.9	14.8
H/L	17.6	33.3	47.0
W	34.3	31.1	37.6

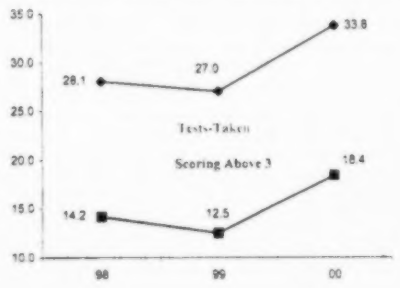
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander

B/AA: Black or African American H/L: Hispanic or Latino W: White

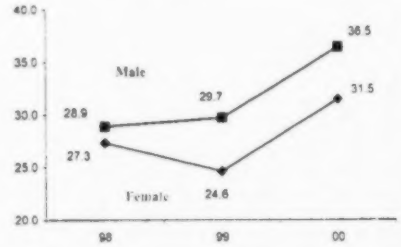
[*1] "Other" category not presented

♦ AP Mathematics (Calculus AB, Calculus BC, & Statistics)

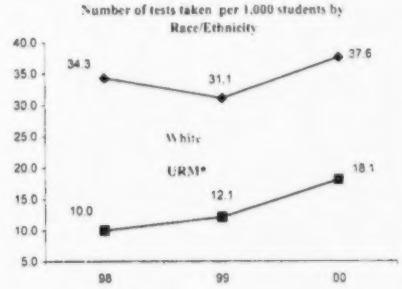
Number of tests taken and scoring above 3 per 1,000 students



Number of tests taken per 1,000 students by Gender



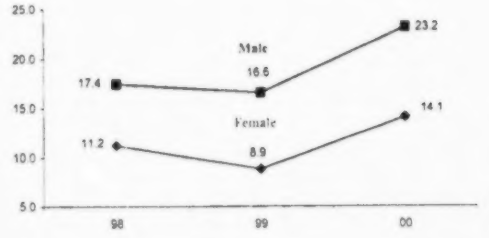
Number of tests taken per 1,000 students by Race/Ethnicity



♦ AP Mathematics - Number of Students Scoring Above 3 By Gender

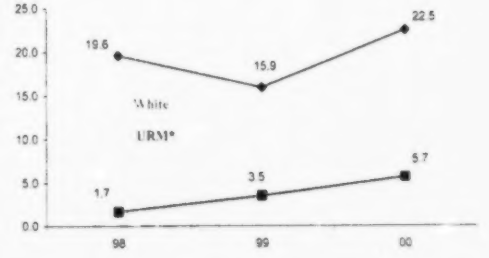
Per 1,000 Students

		98	99	00
Score Above 3 per 1,000	Male	17.4	16.6	23.2
	Female	11.2	8.9	14.1



♦ AP Mathematics - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [*1]

	98	99	00
AI/AN	0.0	50.0	90.9
A/PI	37.4	34.1	70.5
B/AA	0.9	2.2	3.2
H/L	11.8	15.4	27.2
W	19.6	15.9	22.5

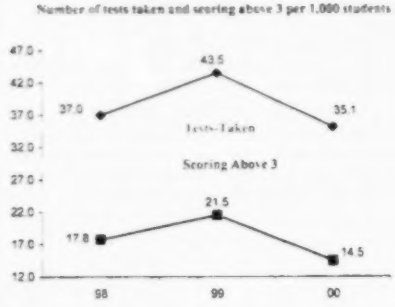


*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

AP Science Test Result Trends ♦ **AP Science (Biology, Chemistry, Environ. Sci., Phy. B, Phy. C Mech., & Phy. C Elec.)**

♦ **AP Science - Total Number of Tests Taken**

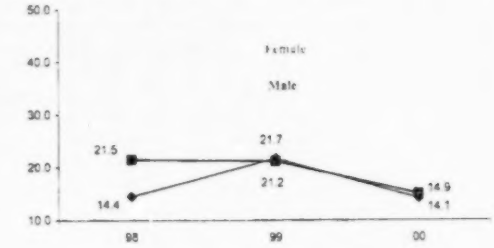
		98	99	00
Total num of 11th & 12th students		11,935	11,766	11,529
Tests Taken	Biology	249	253	191
	Chem.	112	96	97
	Enviro. Sci.	0	99	17
	Physics B	44	38	86
	Ph. C Mech.	36	26	14
	Ph. C Elec.	0	0	0
	Total	**441**	**512**	**405**
Num of tests-taken/1,000 stu.		37.0	43.5	35.1
Scoring Above 3		212	253	167
Num of Above 3/ 1,000 students		17.8	21.5	14.5



♦ **AP Science - Number of Students Scoring Above 3 By Gender**

Per 1,000 Students

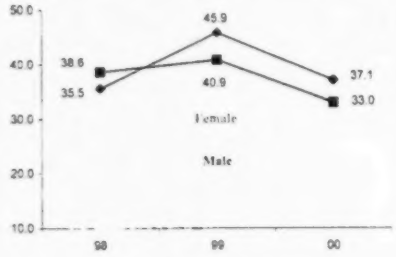
		98	99	00
Scores Above 3 per 1,000	Male	21.5	21.2	14.9
	Female	14.4	21.7	14.1



♦ **AP Science - Number of Tests Taken By Gender**

Per 1,000 Students

		98	99	00
Tests Taken per 1,000	Male	38.6	40.9	33.0
	Female	35.5	45.9	37.1



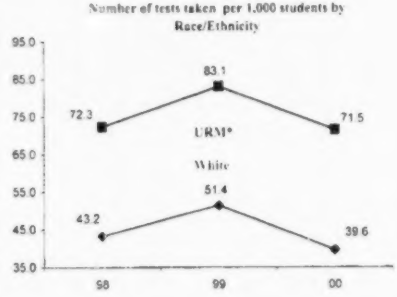
♦ **AP Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students** [1]

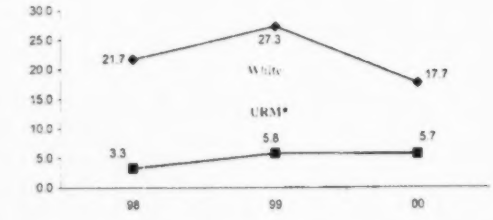
	98	99	00
AI/AN	0.0	50.0	45.5
A/PI	45.3	62.5	45.0
B/AA	2.2	3.4	3.5
H/L	17.6	30.8	27.2
W	21.7	27.3	17.7

♦ **AP Science - Number of Tests Taken By Race/Ethnicity**

Per 1,000 Students [1]

	98	99	00
AI/AN	0.0	250.0	90.9
A/PI	82.7	123.1	90.0
B/AA	75.1	84.9	73.5
H/L	38.2	53.8	49.5
W	43.2	51.4	39.6





AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[1] "Other" category not presented

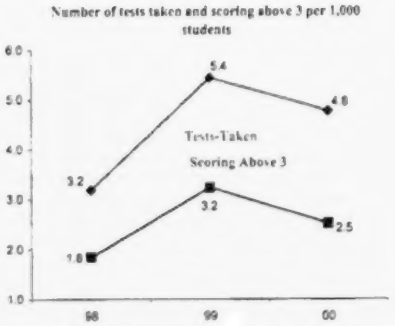
*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

AP Computer Science Test Result Trends

• AP Computer Science (Computer Science A & AB)

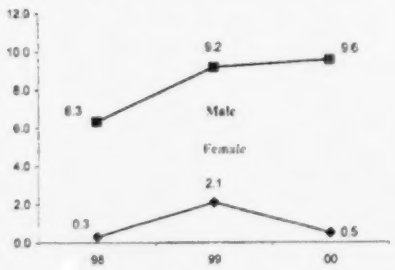
• AP Computer Science - Total Number of Tests Taken

		98	99	00
Total num of 11th & 12th students		11,935	11,766	11,529
Tests Taken	Comp. Sci A	29	63	50
	Comp. Sci AB	9	1	5
	Total	**38**	**64**	**55**
Num of tests taken/1,000 stu.		3.2	5.4	4.8
Scoring Above 3		22	38	29
Num of Above 3/ 1,000 students		1.8	3.2	2.5



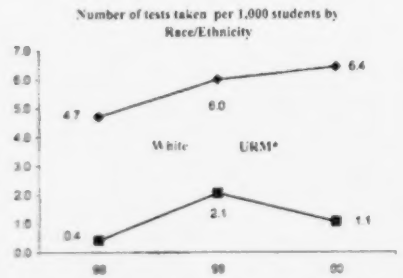
• AP Computer Science - Number of Tests Taken By Gender Per 1,000 Students

		98	99	00
Tests Taken per 1,000	Male	6.3	9.2	9.6
	Female	0.3	2.1	0.5



• AP Computer Science - Number of Tests Taken By Race/Ethnicity Per 1,000 Students [1]

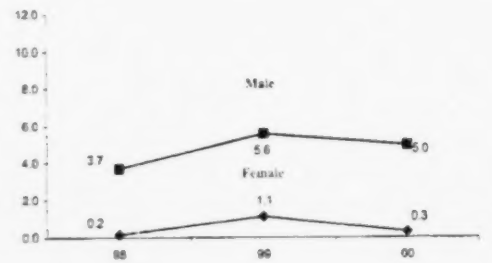
	98	99	00
AI/AN	0.0	50.0	0.0
A/PI	5.9	20.8	7.8
B/AA	0.4	1.8	0.9
H/L	0.0	2.6	2.5
W	4.7	6.0	6.4



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander
B/AA: Black or African American H/L: Hispanic or Latino W: White
[1] "Other" category not presented

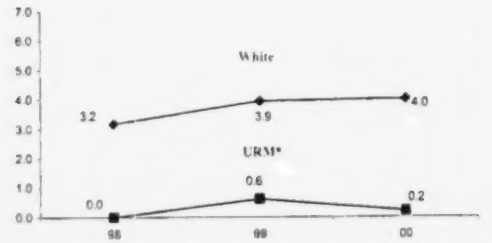
• AP Computer Science - Number of Students Scoring Above 3 By Gender per 1,000 Students

		98	99	00
Score Above 3 per 1,000	Male	3.7	5.6	5.0
	Female	0.2	1.1	0.3



• AP Computer Science - Number of Students Scoring Above 3 By Race/Ethnicity per 1,000 Students [1]

	98	99	00
AI/AN	0.0	50.0	0.0
A/PI	0.0	13.3	2.0
B/AA	0.0	0.4	0.2
H/L	0.0	0.0	0.0
W	3.2	3.9	4.0



*URM includes American Indian/Alaskan Native, Black or African American, and Hispanic or Latino

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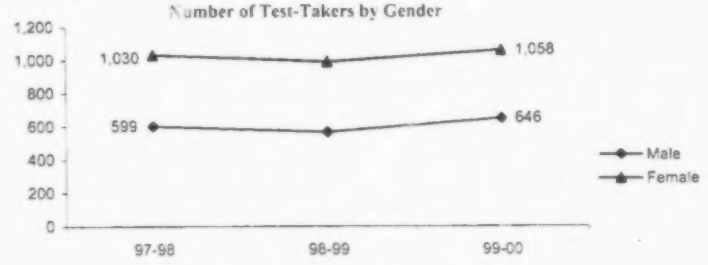
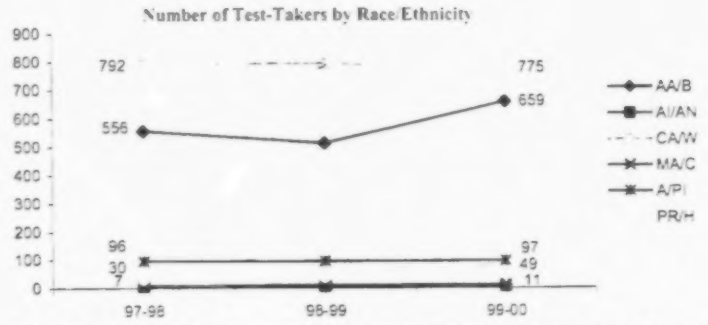
ACT Test-Takers

♦ Number of Test-Takers

		97-98	98-99	99-00
Total Num of 12th Grade Students		5,282	5,180	5,116
Test-Takers		1,629	1,559	1,715
Num of Test-Takers/1,000 Stu.		308	301	335
Gender	Male	599	565	646
	Female	1,030	989	1,058
Race/Ethnicity	AA/B	556	513	659
	AI/AN	8	7	7
	CA/W	792	793	775
	MA/C	7	11	11
	A/PI	96	95	97
	PR/H	30	36	49

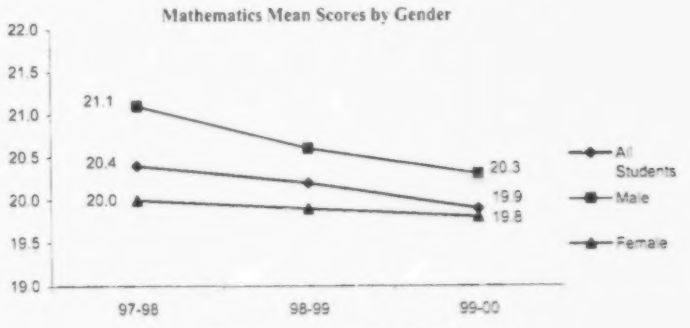


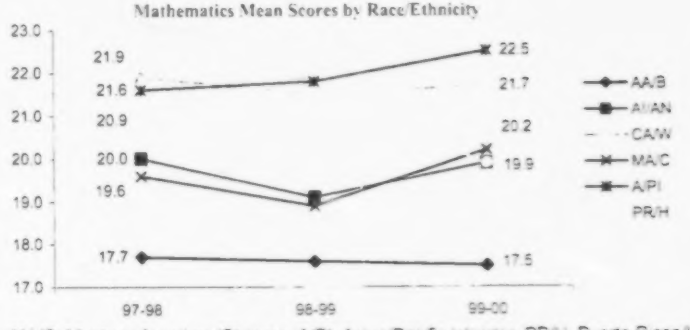


ACT Mathematics Scores

♦ Mathematics - Mean Score Trends

		97-98	98-99	99-00
All Students		20.4	20.2	19.9
Gender	Male	21.1	20.6	20.3
	Female	20.0	19.9	19.8
Race/Ethnicity	AA/B	17.7	17.6	17.5
	AI/AN	20.0	19.1	19.9
	CA/W	21.9	21.5	21.7
	MA/C	19.6	18.9	20.2
	A/PI	21.6	21.8	22.5
	PR/H	20.9	21.4	19.9





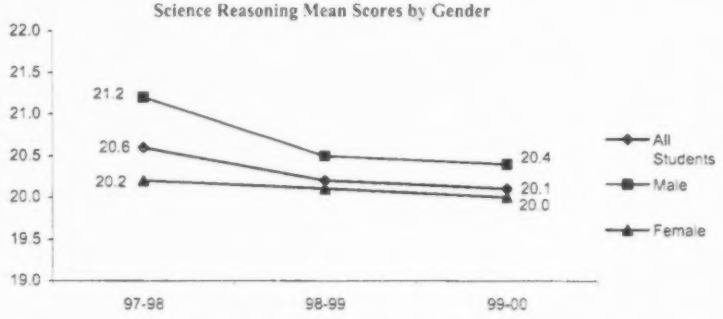
AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/H

ACT Science Reasoning Scores

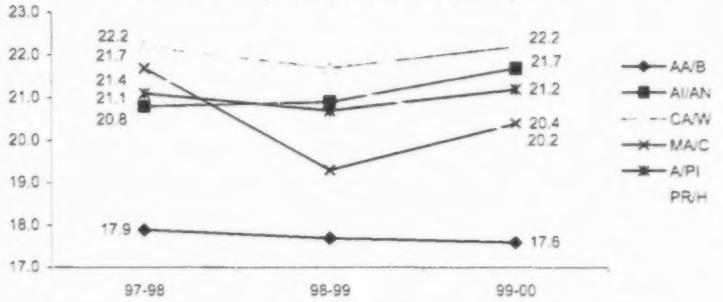
♦ **Science Reasoning - Mean Score Trends**

		97-98	98-99	99-00
	All Students	20.6	20.2	20.1
Gender	Male	21.2	20.5	20.4
	Female	20.2	20.1	20.0
Race/Ethnicity	AA/B	17.9	17.7	17.6
	AI/AN	20.8	20.9	21.7
	CA/W	22.2	21.7	22.2
	MA/C	21.7	19.3	20.4
	A/PI	21.1	20.7	21.2
	PR/H	21.4	21.3	20.2

Science Reasoning Mean Scores by Gender



Science Reasoning Mean Scores by Race/Ethnicity



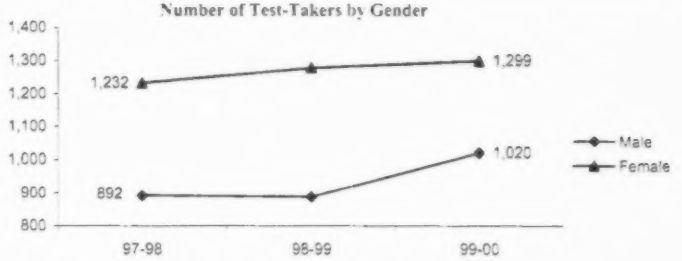
AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.

SAT Test-Takers

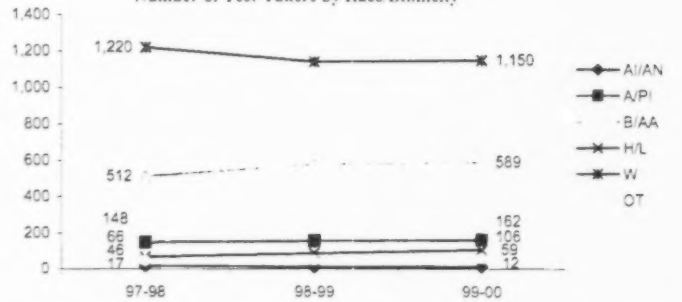
♦ **Number of Test-Takers**

		97-98	98-99	99-00
	Total Num of 12th Grade Students	5,282	5,180	5,116
	Test-Takers	2,124	2,166	2,319
	Num of Test-Takers/1,000 Stu.	402	418	453
Gender	Male	892	888	1,020
	Female	1,232	1,278	1,299
Race/Ethnicity	AI/AN	17	11	12
	A/PI	148	155	162
	B/AA	512	578	589
	H/L	66	86	106
	W	1,220	1,141	1,150
	OT	46	48	59

Number of Test-Takers by Gender



Number of Test-Takers by Race/Ethnicity



AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White OT: Others

Jacksonville USI

SAT Mathematics Scores

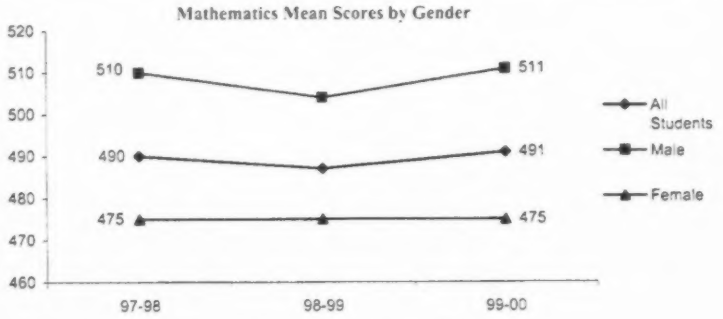
♦ **Mathematics - Mean Score Trends**

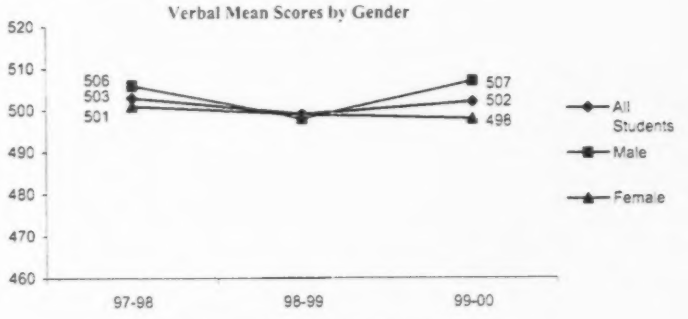
		97-98	98-99	99-00
	All Students	490	487	491
Gender	Male	510	504	511
	Female	475	475	475
Race/Ethnicity	AI/AN	455	472	444
	A/PI	497	498	520
	B/AA	431	429	426
	H/L	473	486	485
	W	519	513	517
	OT	472	500	509

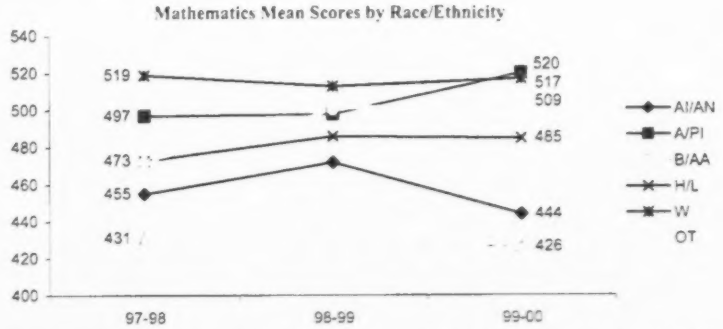
SAT Verbal Scores

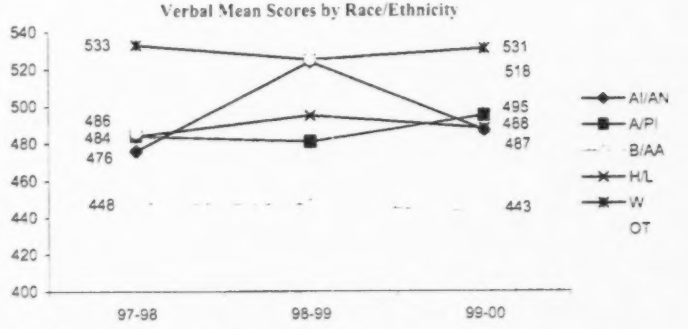
♦ **Verbal - Mean Score Trends**

		97-98	98-99	99-00
	All Students	503	499	502
Gender	Male	506	498	507
	Female	501	499	498
Race/Ethnicity	AI/AN	476	524	487
	A/PI	484	481	495
	B/AA	448	447	443
	H/L	484	495	488
	W	533	525	531
	OT	486	525	518









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Jacksonville USI

Cohort/Scale-Up Approach

	98-99	99-00
Number of District Schools*:	154	154
USI Schools**:	20	88
% Schools:	13%	57%

*Core Data Elements 2000-2001; **K-1 2000

Italics: Data Imputed

Primary Decision Making Body

Standards Curriculum	State
Curriculum/TextBook Adoption	District
Student Assessment	School
Professional Development	School
Resources	State
Teacher Hiring	District
Teacher Contracts	District
Certification & Re-certification	State
Graduation Requirements	State
School-Based Management?	Yes

Policies Promoting Equal Access by All Students in High Quality Education

Student Tracking:
- None

Criteria for Entry into High Level Mathematics and Science Courses:
- Completion of Algebra I, Geometry and Algebra II required before taking upper level math and science courses.

Availability of High Level Courses:
- A policy was approved requiring most high schools to offer Advanced Placement mathematics and science courses
- A new advanced placement courses was provided: AP Environmental Science

Special Education and Bilingual Students:
- USI teachers serve Special Education and Bilingual teachers and students with mathematics and science

Other:
- The Mathematics Immersion Program was implemented to bridge the achievement gap for lower performing students

Policies Impacting the Enrollment of Students in Challenging Math and Science Courses

Attendance:
- None

Guidance:
- Supporters of Academic Rigor (SOAR) Program to promote increased enrollment in higher level

Student Support Systems:
- Ramp-up 8th grade preparation for Algebra I
- Saturday academy for math/science enrichment and assistance
- Team-up math homework assistance program for middle and high schools.

Policies Relevant to Curricula

Framework:
- Florida Sunshine State Standards

Curricula:
- Performance tasks were developed for middle school science courses

Curricula Materials:
- Connected Math investigations in numbers data and space. Chemistry in the Community. Biology: a Community Content, Active Physics, are being piloted.

New Courses Added as a Result of USI:

Instructional Time:
- Block scheduling programs were expanded to additional secondary schools
- Double blocking was used to increase middle school mathematics instruction time

Standards-based Curriculum and Instruction

Standards Adopted:
- National Council of Teachers of Mathematics (NCTM)
- Florida Sunshine State Standards

Primary Instructional Strategies:
- Lecture
- Projects
- Hands-on

% of Students Experiencing Standards-based Mathematics Curricula:	E: 100% M: 100% H: 100%
% of Students Experiencing Standards-based Science Curricula:	E: 100% M: 100% H: 100%

Policies Relevant to Teacher Qualifications

Certification Requirement & Hiring Practices:
- Bachelors or higher degree, meet content specialization requirements, 2.5 GPA in the subject areas.
- Additional college credits needed to maintain certification

Professional Advancement & Leadership Training:
- Administrative Training Program

Contract Requirements:
- No relevant policy

E: Elementary School M: Middle School H: High School

Jacksonville USI

Professional Development Policies and Practices

Time Required or Supported:	•60 hours or more recommended
Financial Resources Provided:	•Title II •USI
Alignment to Student Standards:	•Inservices were aligned with Duval County expectations and Florida Sunshine State Standards
Measurement of Impact:	•Not at this time
Type and Amount Received by Average Math/Science Teacher:	•E: 18 hours of mathematics and science content of curriculum •M, H: 150 hours content knowledge and teaching methods received by 35 teachers
Evaluation Instruments:	•District evaluation form
Professional Development Alignment to Content Standards Measures:	•Sunshine State Standards and Duval County expectations
Teacher's Instructional Practices Evaluation:	•Principal or designee completes classroom observation for all teachers
Impact on Student Achievement:	•SAT-9, FCAT and Terra Nova test scores (SAT/9)

E: Elementary School M: Middle School H: High School

Policies Relevant to Standards-based Assessments

Extent to Which Assessments are Aligned to District Standards and Curriculums:	•The Stanford Achievement Test (V9) was reviewed and adopted as the norm-referenced assessment of science performance •The FCAT was fully aligned with the Sunshine State Standards by the Department of Education. •The Terra Nova Multiple Assessment was closely aligned to test Sunshine State Standards
Methods stakeholders are informed of goals, objectives and accomplishments of assessment program:	•Test results reports sent home via students •School Improvement Plan objectives available in school office •School Public Accountability Report widely available to public and publicized in media •Some students selected to rate their schools (G6-12)

USI Leadership, Governance, and Management

Superintendent:	•New Superintendent began in summer of 1998 is PI.
USI Office:	• Project Director reports to PI •Project Evaluator •Communications Specialist develops and distributes information concerning USI to others
Community Key Personnel:	•USI Consortium formed to provide community oversight of USI activities: 40 members meet, bi-monthly
Teacher Leaders:	•Resource teachers assist classroom teachers and provide standards-based inservice for teachers

Partnerships

Other Key Initiatives:	•America's Choice mathematics •Title I •Title II •Goals 2000 •Higher Education Consortium
Community Stakeholders:	•Duval County Council of PTA's •Area School Advisory Council •African-American fraternal and service organizations •Jacksonville Urban League •Cedar Bay Generating Co.
Higher Education:	•University of North Florida •Jacksonville University •Florida Community College at
Business and Industry:	•Business Alliance •Johnson Controls, Inc.

- WTCV/WJXX
- Channel 12 Jacksonville
- Intellion, Inc.
- Communities in Schools
- Jacksonville First Union Church
- Crown Region Area Center for Educational Enhancement
- Alpha Kappa Alpha Sorority

Policy Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	• Before USI, 2 elementary mathematics/science resource teachers and 2 secondary resource mathematics/science teachers were supported by Eisenhower Title II funds • A tutorial program was used to assist students with mathematics and science homework and preparation for a district criterion-referenced test
1998-99	• No changes reported
1999-00	• No changes reported
2000-01	• Saturday academies • Homework assistance program

Curriculum and Instruction Changes to Support Student Success in Math and Science During USI Implementation

School Year	Policy Implemented
Before USI	• The mathematics curriculum was aligned with the NCTM Standards and Florida's Sunshine State Standards. • Mathematics instruction consisted mostly of teacher lectures and students learning terms and practicing procedures • The science curriculum was aligned with the NTSF Standards and Florida's Sunshine State Standards • Science instruction consisted mostly of lectures and lab
1998-99	• Revision of mathematics curriculum for middle school, elementary school, and selected courses in high school to reflect recommendations of TIMSS report of completing fewer topics in greater depth
1999-00	• No changes reported
2000-01	• Math & science curriculum restructured to align with Florida Sunshine State Standards • Graduation requirements strengthened to include Biology and two Physical Science courses • Completion of Algebra I, Geometry and Algebra II are required before taking upper level math courses

Standards-based Assessment System Changes During USI Implementation

School Year	Policy Implemented
Before USI	• Mathematics was evaluated in 1997-98 by the Florida Comprehensive Assessment Test (FCAT), a statewide test, at grades 5, 8, and 10. Data from the 1997-98 administration of the FCAT formed the baseline for subsequent years • The High School Competency Test (HSCT) mathematics subtest was administered to all eleventh grade students in October 1997 • Mathematics and science were evaluated in 1997-98 by the TerraNova Multiple Assessment instrument (CTB/McGraw-Hill) at grades 3, 7, and 9. • The district administered the mathematics sub-tests of the Comprehensive Test of Basic Skills/4 (CTBS/4), a national norm-referenced test, to grades 3-9 and its science sub-test to grades 4, 6, and 8
1998-99	• The Comprehensive Test of Basic Skills/4 (CTBS/4) was dropped by the district as the norm-referenced test for mathematics and science and was replaced by the TerraNova Multiple Assessment which more closely aligns with the FCAT in design and philosophy
1999-00	• No changes reported
2000-01	• Stanford Achievement test (SAT/9) Science subtest added.

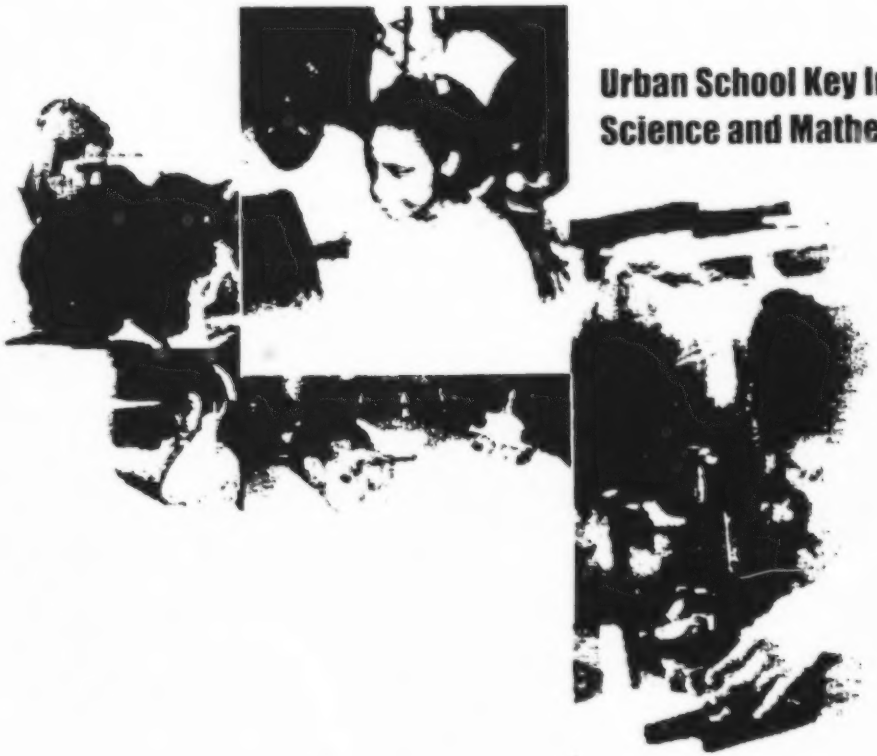
Professional Development Policy and Program Changes to Support Teachers During USI Implementation

School Year	Policy Implemented
Before USI	• Title II funds provided district-wide for professional development in science and mathematics • Third, fourth, and fifth grade teachers received inservice training for three years in math and science • Secondary teachers received inservice training in math or science for three years
1998-99	• Required 80% of schools to have 60 hours of professional development per teacher
1999-00	• No changes reported
2000-01	• No changes reported

School District Progress Report

March 2002

Houston



Urban School Key Indicators of Science and Mathematics Education: 2001

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Houston USI

Project Information

USI Project Title : Houston USI

Cohort: 99 (Sept. 99 - Aug. 04)

USI Web Site:

Project Summary

♦ PI, CO-PI and PD

Mrs. Charlotte Haynes

Project Director

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Project Goals

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3830 Richmond Avenue

Weslayan Bldg. B

Houston, TX 77027-5838

♦ USI Schools Math & Sci. Teachers and Students

99-00	Schools	Teachers	Students
K-G5 (Elementary)	116	6,095	.
G6-8 (Middle)	34	461	.
G9-12 (High)	10	507	.
Total	160	7,063	.

(.) Data Missing

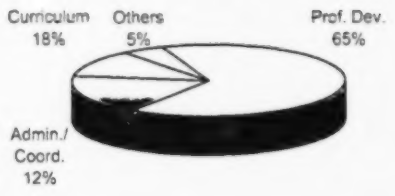
Selected School Indicators (District Average)

	99-00	00-01	Change
%Special Ed.	10.4%	9.9%	-0.5 PP
%LEP	26.5%	27.2%	+0.7 PP
%FRL	75.4%	77.0%	+1.6 PP
%Daily Ave. Atten.	94.5%	.	.
%Average Retained	6.6%	.	.
%Drop-Out	3.2%	.	.
%Mobility		.	.
Per Pupil Cost ($)	$6,450	.	.
Num of Students Per Computer		.	.
% Classrooms Internet Access		.	.
Average Class Size	26	.	.

District and USI Fund Utilization (SY 1999-00)

	District	USI
Prof. Dev.	32%	65%
Curriculum	5%	18%
Admin./Coord.	4%	12%
Others	59%	5%
Total	100%	100%

USI Funds %



Houston USI

Student Demographics (SY 2000-01)

District Total: 208,672
USI Schools: 208,672

♦ Race/Ethnicity

	99-00	00-01	%	% Change
Ame. Ind./Ala. Nat.	210	208	0.1%	-1.0%
Asian/P. Islander	6,088	6,051	2.9%	-0.6%
Black	69,902	66,984	32.1%	-4.2%
Hispanic	111,675	114,561	54.9%	+2.6%
White	22,041	20,867	10.0%	-5.3%
Other	0	0	0.0%	
Total	209,916	208,672		-0.6%
URM Total	181,787	181,753	87.1%	0.0%

URM: Underrepresented Minority students.

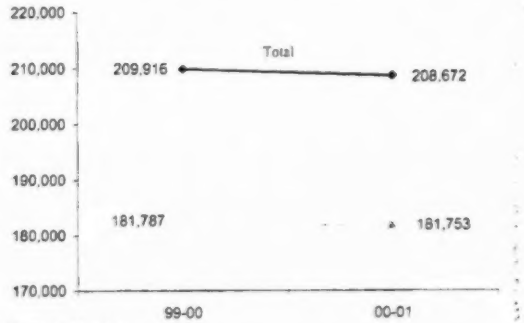
♦ Gender

Male	100,964	.	48.1%	.
Female	97,433	.	46.4%	.

♦ Grade

K-G5	118,777	.	56.6%	.
G6-8	42,794	.	20.4%	.
G9-12	48,335	.	23.0%	.
Ungraded	.	.	.	.

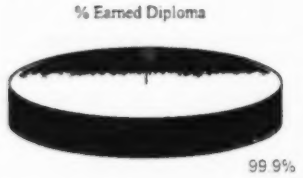
♦ District-Wide Student Demographic Trends



(.) Data Missing

12th Grade Graduates

	99-00
Total 12th Grade	8,043
Earned a Diploma	8,034
% Earned Diploma	99.9%



College Entrance

	99-00
2 Yr College	.
4 Yr College	.
Other Post-Secon.	.
Total C. E.	.
% C. E./Earned Dip.	.

High School Graduation Requirements (SY 99-00)

- Mathematics
  - 3 years
- Science
  - 3 years

Math and Science Teachers & Certification

♦ Mathematics (G6-12)

		99-00
G6-8	Teachers	250
	Certified	
	% Cert.	
G9-12	Teachers	325
	Certified	
	% Cert.	
Total	Teachers	575
	Certified	
	% Cert.	

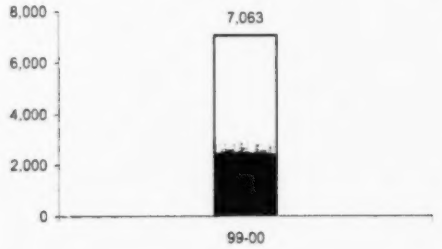
♦ Science (G6-12)

		99-00
G6-8	Teachers	211
	Certified	
	% Cert.	
G9-12	Teachers	182
	Certified	
	% Cert.	
Total	Teachers	393
	Certified	
	% Cert.	

♦ Math and Science (K-G5)

		99-00
K-G5	Teachers	6,095

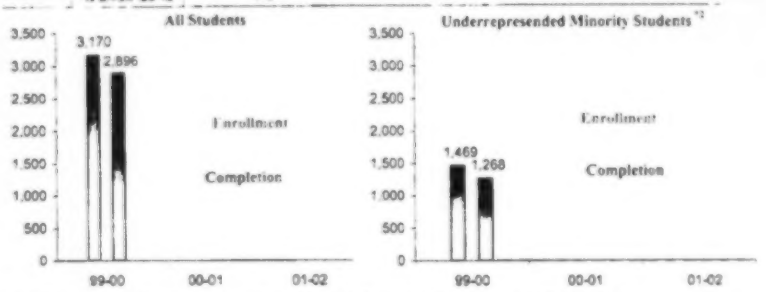
Total Number of Math and Sci. Teachers (K-G12)



Mathematics and Science Enrollment &Completion Trends/ All vs. URM

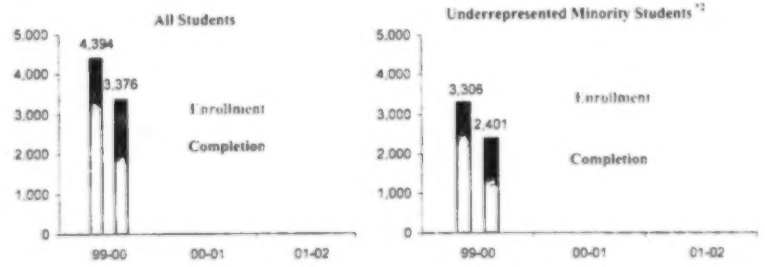
G 9-12 Mathematics Gate-Keeping Courses (Algebra II, Geo., and Calculus)

		99-00	00-01	01-02
Total G 9-12 Population		48,345		
All Students	Enrollment	3,170		
	Completion [*1]	2,896		
	% Enroll/ G9-12	7%		
URM [*2]	Enrollment	1,469		
	Completion [*1]	1,268		
	% Enroll/ G9-12	4%		



G 9-12 Science Gate-Keeping Courses (Biology 1, Chem. 1, and Physics 1)

		99-00	00-01	01-02
Total G 9-12 Population		48,345		
All Students	Enrollment	4,394		
	Completion [*1]	3,376		
	% Enroll/ G9-12	9%		
URM [*2]	Enrollment	3,306		
	Completion [*1]	2,401		
	% Enroll/ G9-12	8%		



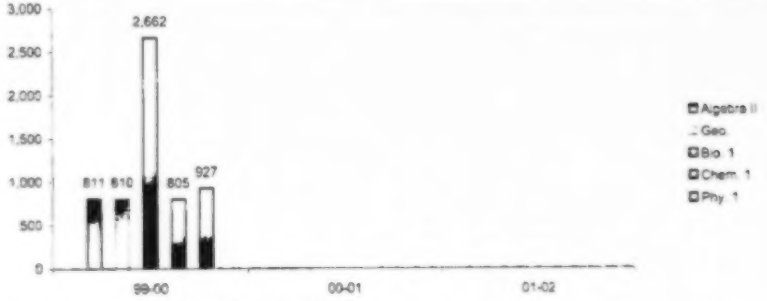
[*1] Successful completion: grade 'D' or above.

[*2] Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Mathematics and Science Enrollment & Completion Trends By Subject

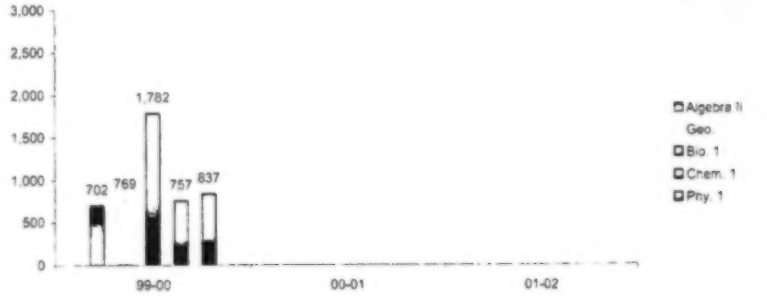
G 9-12 Course Enrollment (All Students)

	Algebra II	Geo.	Calculus [*3]	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
99-00	811	810	1,549	3,170	2,662	805	927	4,394
00-01								
01-02								



G 9-12 Course Completion [*1] (All Students)

	Algebra II	Geo.	Calculus [*3]	Math Total	Bio. 1	Chem. 1	Phy. 1	Science Total
99-00	702	769	1,425	2,896	1,782	757	837	3,376
00-01								
01-02								

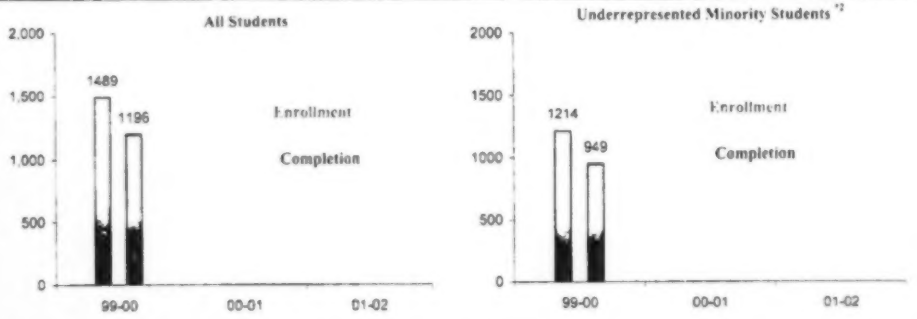


[*3] Calculus not represented on graph.

435

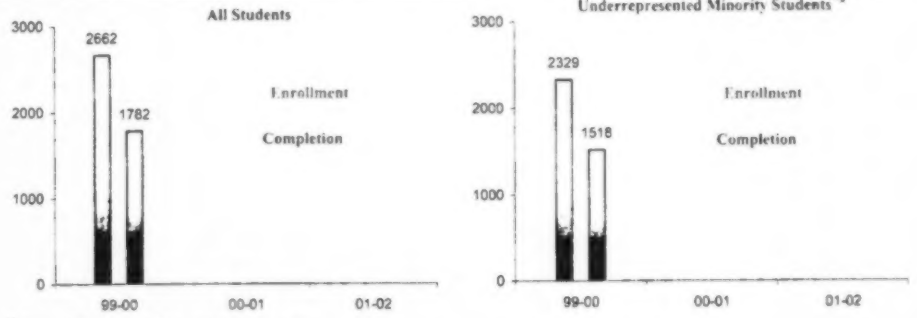
Algebra I or Above in 8th Grade Enrollment & Completion Trends/ All vs. URM

		99-00	00-01	01-02
Total G 8 Population		13,483		
All Students	Enrollment	1,489		
	Completion *1	1,196		
	% Enroll/ G8	11%		
URM *2	Enrollment	1,214		
	Completion *1	949		
	% Enroll/ G8	10%		



Biology Enrollment & Completion Trends/ All vs. URM

		99-00	00-01	01-02
All Students	Enrollment	2,662		
	Completion *1	1,782		
URM *2	Enrollment	2,329		
	Completion *1	1,518		



*1 Successful completion: grade 'D' or above.

*2 Underrepresented Minority students (American Indian/Alaskan Native, Black, and Hispanic)

Professional Development Participation of Teachers Teaching Mathematics and/or Science

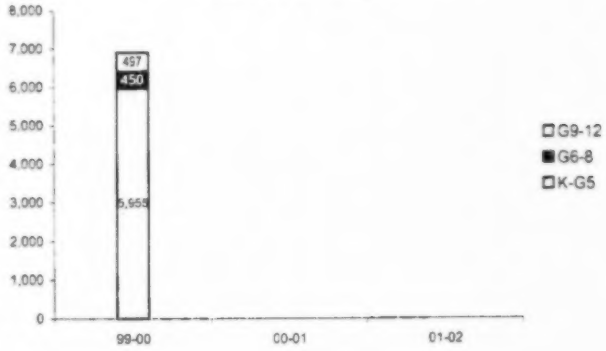
Total Number Teachers by Subject (G6-12)

	99-00	00-01	01-02
Mathematics	461		
Science	407		

Total Number of Teachers Participating in PD by Grade Level

Teachers	99-00	00-01	01-02
Total K-G5	6,095		
# K-G5 Participated	5,955		
% K-G5 Participated	98%		
Total G6-8	461		
# G6-8 Participated	450		
% G6-8 Participated	98%		
Total G9-12	507		
# G9-12 Participated	497		
% G9-12 Participated	98%		

Number of Teachers Participating in Professional Development by Grade Level Taught



Number of Teachers by Duration of Professional Development

	99-00	00-01	01-02
1-59 Hours	6,355		
60-119 Hours	384		
120-200 Hours	162		
More than 200 Hours	1		

Houston USI

District Assessment Test Administered

♦ Mathematics

	99-00	00-01	01-02
Test Name	SAT9/A2	SAT9/A2	
Scoring	PC,OT	PC,OT	
Grade	1-11	1-11	
Type	NRT	NRT	

♦ Science

	99-00	00-01	01-02
Test Name			
Scoring			
Grade			
Type			

State Assessment Test Administered

♦ Mathematics

	99-00	00-01	01-02
Test Name	TAAS	TAAS	
Scoring	PF	PF	
Grade	3-8,10	3-8,10	
Type	CRT	CRT	

♦ Science

	99-00	00-01	01-02
Test Name	TAAS	TAAS	
Scoring	PF	PF	
Grade	8	8	
Type	CRT	CRT	

*SAT9/A2: Stanford 9/ Aprenda 2

*TAAS: Texas Assessment of Academic Skills

PC: Percentile SN: Stanine PL: Performance Level

PF: Pass/Fail SS: Scaled Score OT: Other

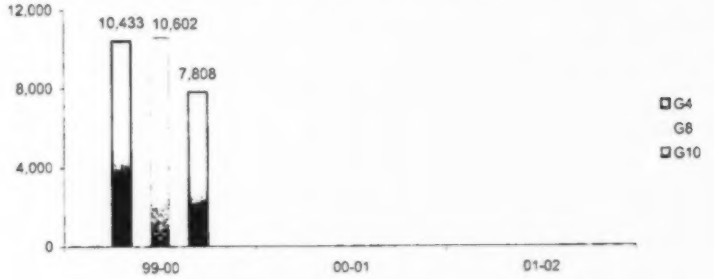
NRT: Norm-Referenced Test CRT: Criterion-Referenced Test

State Assessment Test-Taker Trends - Texas Assessment of Academic Skills

♦ Mathematics (Test Takers)

# of Test Takers	99-00	00-01	01-02
Grade 4	10,433		
Grade 8	10,602		
Grade 10	7,808		

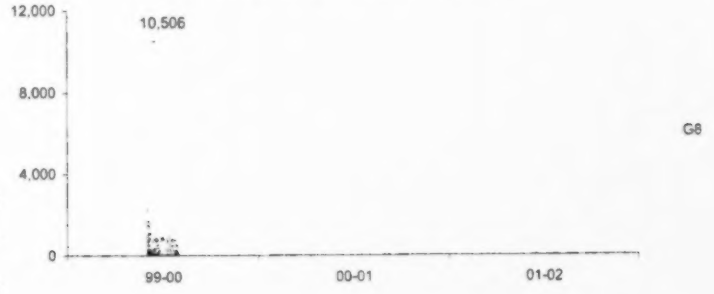
Total number of students taking test



♦ Science (Test Takers)

# of Test Takers	99-00	00-01	01-02
Grade 4			
Grade 8	10,506		
Grade 10			

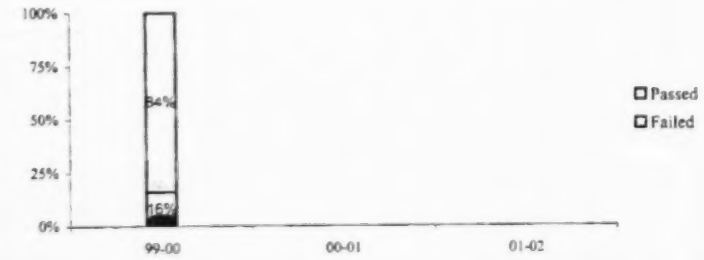
Total number of students taking test



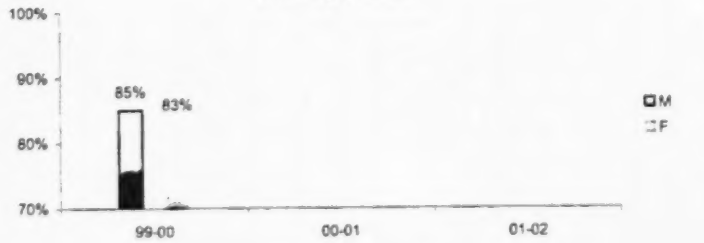
State Assessment Test Result Trends - TAAS Mathematics

♦ Grade 4

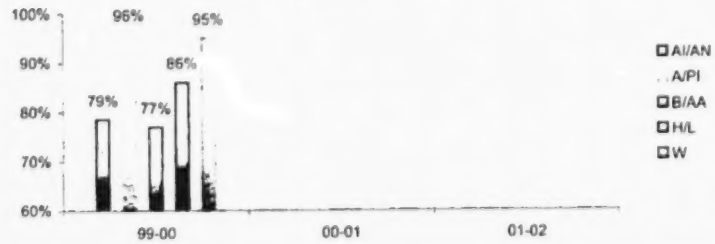
Pass/Fail	99-00	00-01	01-02
Passed	84%		
Failed	16%		
Total num of students	10,433		



% Passing by Gender



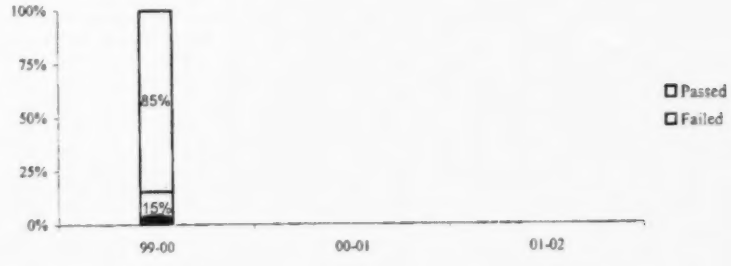
% Passing by Race/Ethnicity



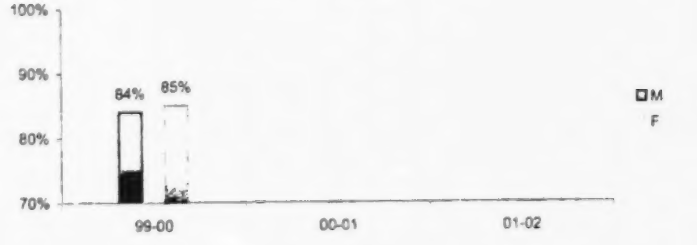
State Assessment Test Result Trends - TAAS Mathematics

♦ Grade 8

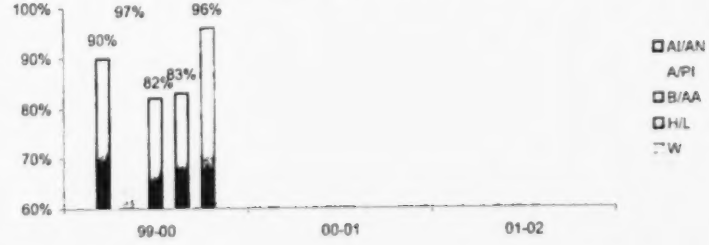
Pass/Fail	99-00	00-01	01-02
Passed	85%		
Failed	15%		
Total num of students	10,602		



% Passing by Gender



% Passing by Race/Ethnicity

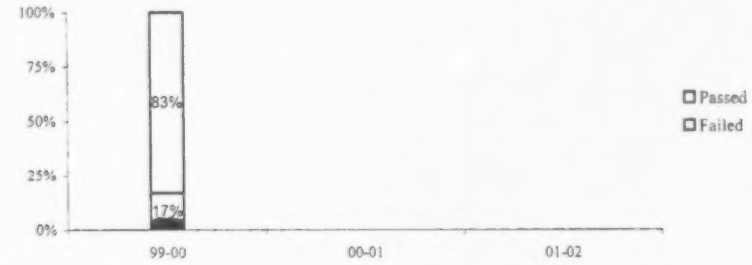


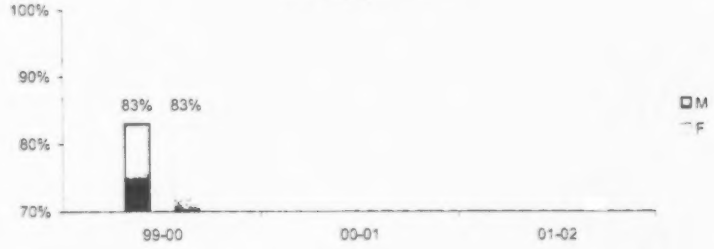
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White

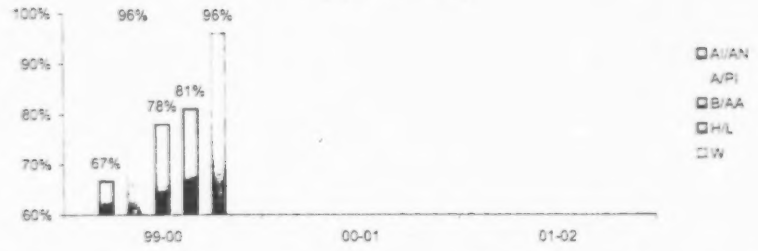
State Assessment Test Result Trends - TAAS Mathematics

♦ Grade 10

Pass/Fail	99-00	00-01	01-02
Passed	83%		
Failed	17%		
Total num of students	7,808		



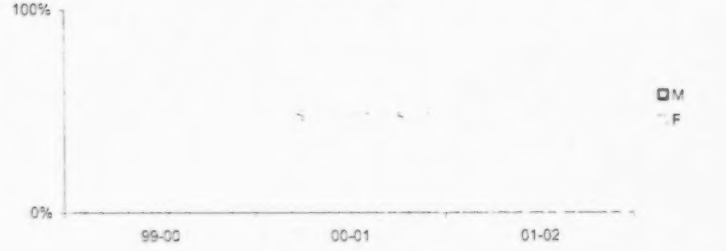


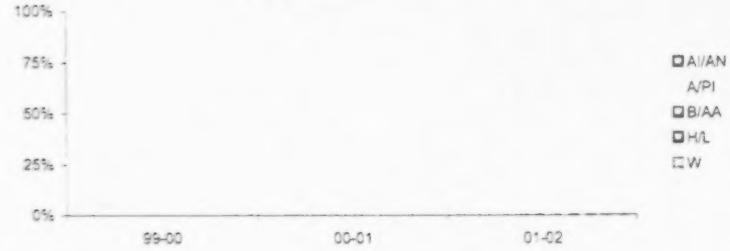


State Assessment Test Result Trends - TAAS Science

♦ Grade 4

Pass/Fail	99-00	00-01	01-02
Passed			
Failed			
Total num of students			



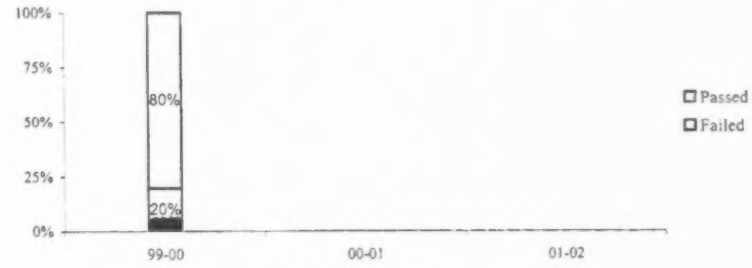


AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White
% Passing defined as Passed

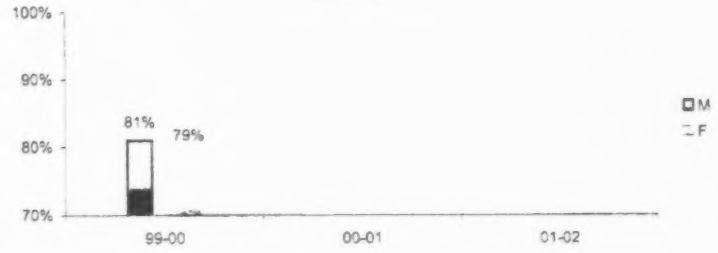
State Assessment Test Result Trends - TAAS Science

♦ Grade 8

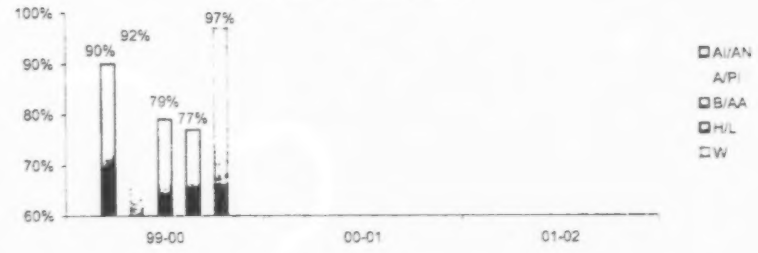
Pass/Fail	99-00	00-01	01-02
Passed	80%		
Failed	20%		
Total num of students	10,506		



% Passing by Gender



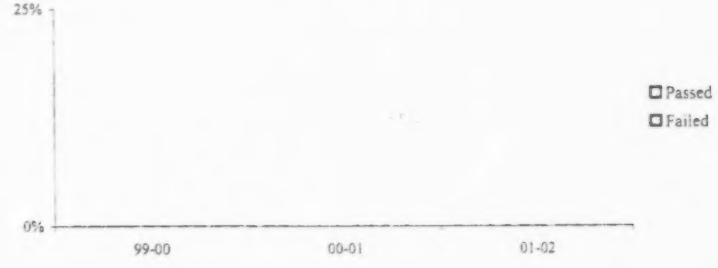
% Passing by Race/Ethnicity



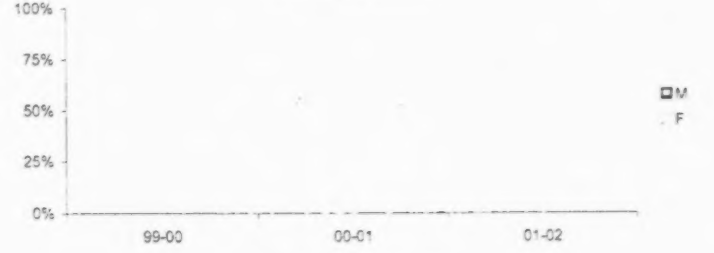
State Assessment Test Result Trends - TAAS Science

♦ Grade 10

Pass/Fail	99-00	00-01	01-02
Passed			
Failed			
Total num of students			



% Passing by Gender



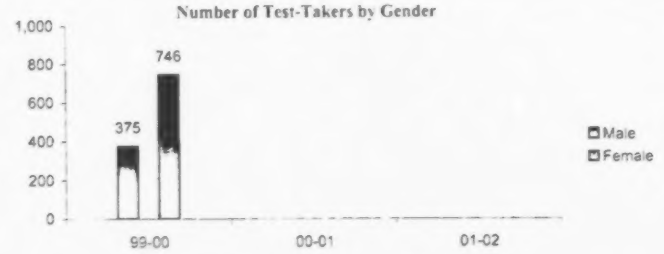
% Passing by Race Ethnicity

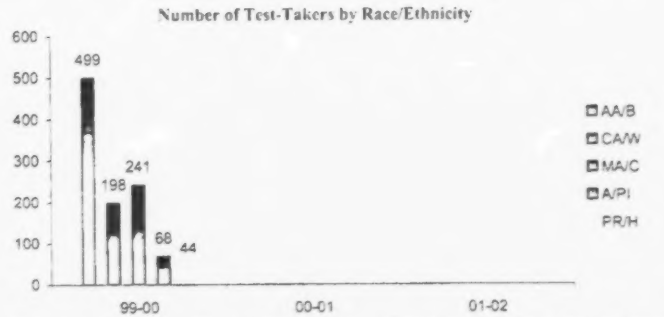
AI/AN: American Indian/Alaskan Native A/PI: Asian/Pacific Islander B/AA: Black or African American H/L: Hispanic or Latino W: White
% Passing defined as Passed

ACT Test-Takers

♦ Number of Test-Takers

		99-00	00-01	01-02
Total Num of 12th Grade Students		8,048		
Test-Takers		1,125		
Num of Test-Takers/1,000 Stu.		140		
Gender	Male	375		
	Female	746		
Race/Ethnicity	AA/B	499		
	AI/AN *1	1		
	CA/W	198		
	MA/C	241		
	A/PI	68		
	PR/H	44		

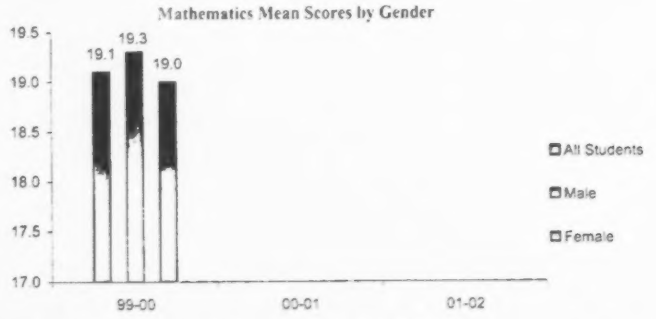


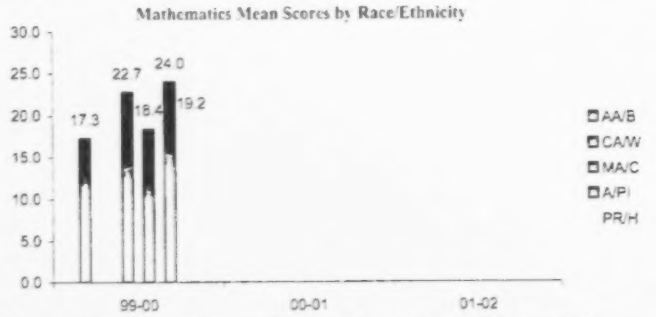


ACT Mathematics Scores

♦ Mathematics - Mean Score Trends

		99-00	00-01	01-02
All Students		19.1		
Gender	Male	19.3		
	Female	19.0		
Race/Ethnicity	AA/B	17.3		
	AI/AN *1			
	CA/W	22.7		
	MA/C	18.4		
	A/PI	24.0		
	PR/H	19.2		





AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H:

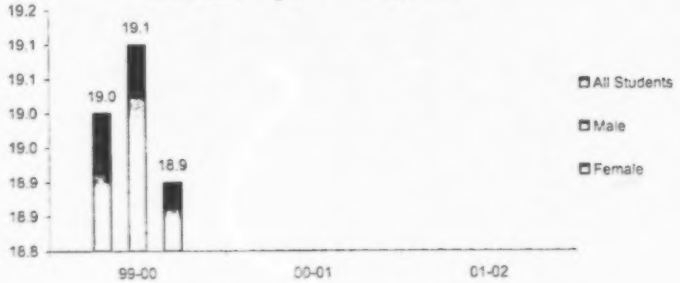
*1 Mean scores not presented for sample size less than 5

ACT Science Reasoning Scores

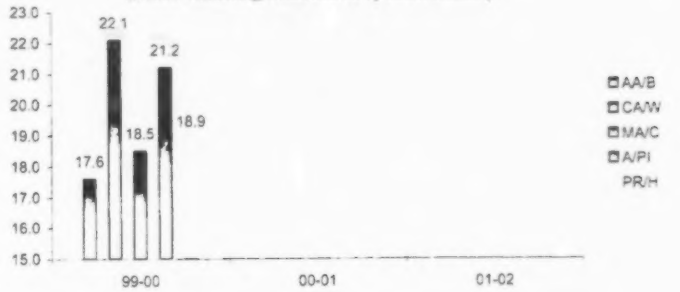
♦ Science Reasoning - Mean Score Trends

		99-00	00-01	01-02
All Students		19.0		
Gender	Male	19.1		
	Female	18.9		
Race/Ethnicity	AA/B	17.6		
	AI/AN [1]	.		
	CA/W	22.1		
	MA/C	18.5		
	A/PI	21.2		
	PR/H	18.9		

Science Reasoning Mean Scores by Gender



Science Reasoning Mean Scores by Race/Ethnicity



AA/B: African-American/Black AI/AN: American Indian/Alaskan Native CA/W: Cauc. American/White MA/C: Mexican American/Chicano A/PI: Asian/Pacific Islander PR/H: Puerto Rican/Hispanic.

[1] Mean scores not presented for sample size less than 5

Urban School Key Indicators of Science and Mathematics Education

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Chicago
Dallas
Detroit
El Paso
Miami-Dade
New York
Phoenix

Cohort 94

Cleveland
Columbus
Fresno
Los Angeles
Memphis
New Orleans
Philadelphia

Cohort 95

Milwaukee
San Antonio
San Diego
St. Louis

Cohort 97

Atlanta
Jacksonville

Cohort 99

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